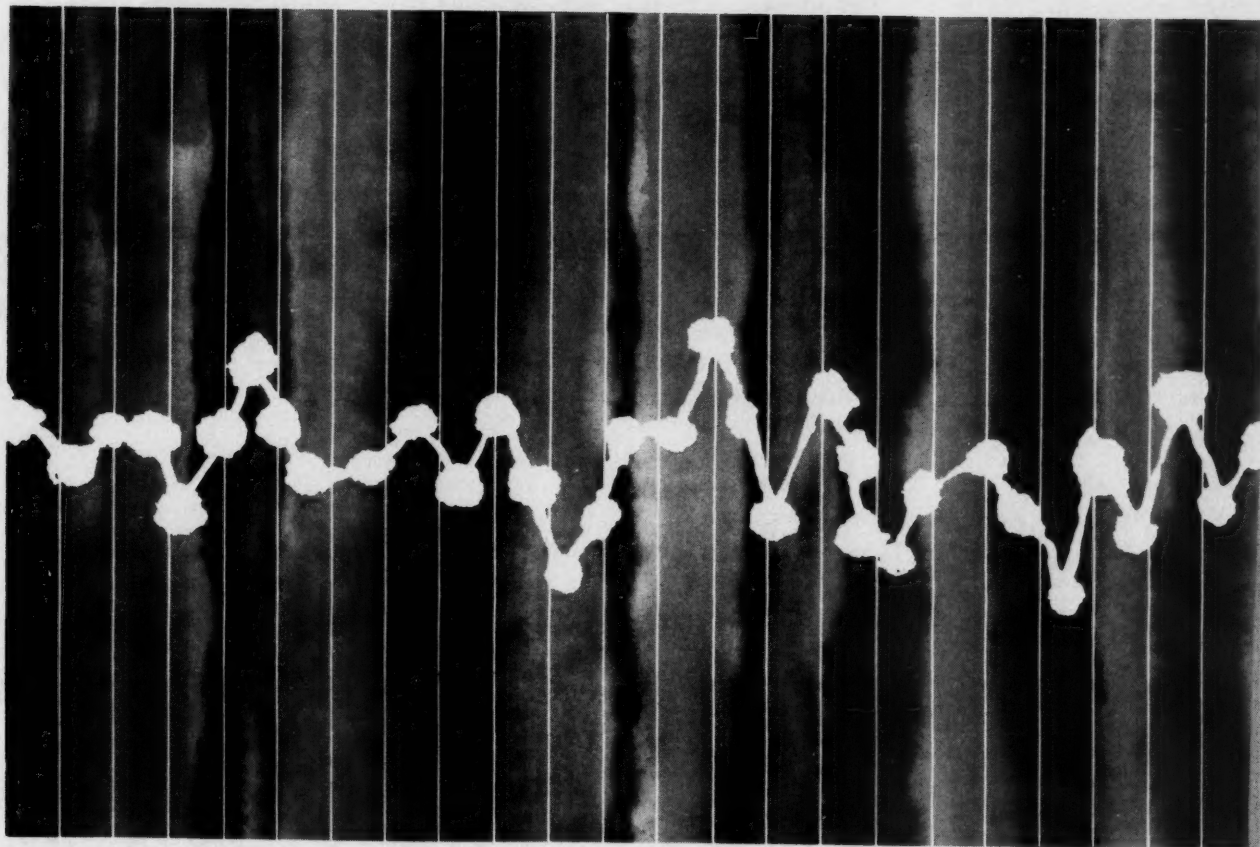


# defense indicators

NOVEMBER 1974



U.S. DEPARTMENT OF COMMERCE • Social and Economic Statistics Administration • BUREAU OF ECONOMIC ANALYSIS



## **U. S. DEPARTMENT OF COMMERCE**

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This publication is prepared under the general guidance of an interagency committee established by the Office of Management and Budget. This committee consists of the following persons:

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# defense indicators

**November 1974**  
**Series ES4 No. 74-11**

	Page
<b>Introduction</b> . . . . .	1
<b>Table A. Summary of Recent Data and Current Percent Changes for Principal Defense Indicators</b> . . . . .	4
<b>Chart 1. Gross National Product and National Defense Purchases</b> . . . . .	5
<b>Chart 2. Advance Indicators of Defense Activity</b> . . . . .	6
<b>Chart 3. Intermediate and Final Indicators of Defense Activity</b> . . . . .	9
<b>Chart 4. Defense-Related Balance of Payments Components.</b>	13
<b>Table 1. Gross National Product and National Defense Purchases</b> . . . . .	14
<b>Table 2. Advance Indicators of Defense Activity</b> . . . . .	15
<b>Table 3. Intermediate and Final Indicators of Defense Activity</b> . . . . .	22
<b>Table 4. Defense-Related Balance of Payments Components.</b>	27
<b>Appendix A: Seasonal Adjustment Factors</b> . . . . .	28
<b>Appendix B: Average Changes and Related Measures of Variability</b> . . . . .	29
<b>Appendix C: Historical Data (See <i>Alphabetical Index—Series Finding Guide</i>)</b>	
<b>Appendix D: Data Sources and Series Descriptions (See <i>Alphabetical Index—Series Finding Guide</i>)</b>	
<b>Alphabetical Index—Series Finding Guide</b> . . . . .	Back Cover



## 6 SESA PROJECTS for economic analysis

**BUSINESS CONDITIONS DIGEST** A monthly report for analyzing economic fluctuations over a short span of years.

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This report provides historical data back to 1947 for nearly 2,500 time series. The series are accompanied by concise descriptions as to their composition, methods of compilation, comparability, revisions, and availability. Also listed are the names and addresses of organizations which provide the basic data for the series.



## Introduction

The purpose of this monthly report is to bring together the principal time series on defense activity which influence short-term changes in the national economy. These include series on obligations, contracts, orders, shipments, inventories, expenditures, employment, and earnings. Most are monthly but a few quarterly series are included. The series numbers used are for identification purposes only and do not reflect relationships or order.

### Classification of Series

Chart 1 compares Government purchases of goods and services for national defense with total gross national product. GNP is the market value of the final output of goods and services produced by the Nation's economy and represents a very broad measure of aggregate economic activity. In addition to national defense purchases, it includes Federal Government purchases of goods and services for nondefense purposes, State and local government purchases, personal consumption expenditures, gross private domestic investment, and net exports of goods and services. Chart 1 also presents national defense purchases as a percent of gross national product and, for both series, changes from the previous quarter.

A related group of series is shown in Chart 4, "Defense-Related Balance of Payments Components." These series show the effects of defense-related economic activity on the balance of payments accounts.

The remaining series are grouped in accordance with the time at which the activities they measure occur within the defense order-production-delivery process. Those series measuring activities that usually precede production, such as new orders placed with defense products industries and contract awards, are presented in Chart 2, "Advance Indicators of Defense Activity." Chart 3, "Intermediate and Final Indicators of Defense Activity," presents series that measure activities which tend to move at the same time as production (such as employment) and activities which usually follow production (such as shipments).

### Series Included

Following is a list of the series as they appear in charts 1, 2, 3, and 4 (the source agencies are abbreviated in parentheses; detailed lists of sources for charts 1, 2, and 3 appeared as appendices to the August and October 1968 issues of this report).

#### Gross National Product and National Defense Purchases

- Gross national product (BEA)
- Federal Government purchases of goods and services, national defense (BEA)
- National defense purchases as a percent of gross national product (BEA)
- Gross national product, changes from previous quarter (BEA)
- National defense purchases, changes from previous quarter (BEA)

#### Advance Indicators of Defense Activity

- Defense Department gross obligations incurred, total (DOD)
- Defense Department gross obligations incurred, procurement (DOD)
- Gross obligations incurred outside the Government for national defense (Treasury)

- Defense Department military prime contract awards for work performed in the United States (DOD)
- Defense Department gross unpaid obligations outstanding (DOD)
- Manufacturers' new orders (Census):
  - Defense products industries
  - Defense products
- Manufacturers' new orders from the U.S. Government, aerospace industries (Census):
- Average weekly overtime hours, production workers, defense products industries (BLS)
- Accessions, defense products industries (BLS)
- Layoffs, defense products industries (BLS)

#### Intermediate and Final Indicators of Defense Activity

- Manufacturers' inventories (Census):
  - Defense products industries
  - Defense products
- Manufacturers' unfilled orders (Census):
  - Defense products industries
  - Defense products
- Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census)
- Defense Department progress payments outstanding (DOD)
- Employment in defense products industries, total (BLS)
- Employment in defense products industries, production workers (BLS)
- Index of aggregate weekly man-hours, defense products industries (BLS)
- Index of aggregate weekly payrolls, production workers, defense products industries (BLS)
- Defense Department manpower, military (DOD)
- Defense Department manpower, civilian (DOD)
- Defense Department net outlays, total, military functions and military assistance (DOD)
- Defense Department net outlays, procurement (DOD)
- Budget outlays for the national defense function (Treasury)
- Defense Department personnel compensation (DOD)
- Manufacturers' shipments (Census):
  - Defense products industries
  - Defense products
- Manufacturers' shipments to the U.S. Government, aerospace industries (Census):
- Ratio, manufacturers' unfilled orders to shipments (Census):
  - Defense products industries
  - Defense products
- Ratio, manufacturers' inventories to shipments (Census):
  - Defense products industries
  - Defense products

#### Defense-Related Balance of Payments Components

- Transfers under U.S. military agency sales contracts—exports (BEA)
- Direct defense expenditures—imports (BEA)
- U.S. Government cash receipts associated with military sales contracts (BEA)

Some additional data are included in the tables though not presented in the charts. These include Defense Department military prime contract awards by procurement category (e.g., for aircraft, missiles and space systems, ships, weapons, and munitions), the operations component of Defense Department

gross obligations incurred, gross unpaid obligations outstanding, and net outlays and the procurement component of gross unpaid obligations outstanding.

#### Description of Basic Data

The Department of Defense compiles statistics on obligations, contract awards, personnel compensation, and outlays. The DOD obligations and outlays data are based on the Defense Department's monthly *Status of Funds* report which is developed from accounting data and is designed to provide information on the total status of Defense Department financing. Accounts included in this report are aggregated by appropriation categories including personnel costs, operations and maintenance, procurement, research and development, and construction. The *Status of Funds* report duplicates some obligations. That is, obligations of one government unit to another unit are not netted out.

The Defense Department's *Contract Awards* report covers the awarding of procurement contracts. These include obligations for operating and maintenance supplies, equipment and services, research and development, and construction in addition to the obligations for items that constitute the fiscal "procurement" category. The statistics are aggregated by commodity categories including aircraft, missile and space systems, ships, weapons, ammunition, electronics and communication equipment, fuels, and textiles and clothing. The *Contract Awards* report includes procurement for NASA, other nondefense agencies, and the Foreign Military Sales Program which are not included in the *Status of Funds* report.

The Census quarterly new orders, unfilled orders and shipments series for "aerospace industries" are based on reports of companies classified into the following industry categories:

Industry	SIC Code
Aircraft and parts .....	372
Guided missiles and space vehicles, completely assembled ..	1925

The Census and BLS data for "defense products industries" presented in this report cover companies and establishments<sup>1</sup> classified into the following industry categories in accordance with the *Standard Industrial Classification Manual*, 1967 edition, Executive Office of the President, Bureau of the Budget:

Industry	SIC Code
Ordnance and accessories .....	19
Communication equipment .....	366
Aircraft and parts .....	372

Establishments reporting to the BLS are classified into industries on the basis of their principal product or activity as determined from information on annual sales volume, which is collected each year on a supplement to the monthly report. The entire employment of an establishment making more than one product or engaging in more than one activity is included under the industry accounting for the largest percentage of the annual sales of that establishment.

The Census Bureau's monthly survey is based primarily on reports at the company level and the monthly estimates are benchmarked to the establishment data from the *Annual Survey*

<sup>1</sup> An establishment is a single physical location where business is conducted (e.g., a plant). A company often includes more than one establishment.

of *Manufactures*. Also, many of the large diversified companies file separate divisional reports monthly. Although the reports in the survey are also classified according to their principal product or activity, this difference in the organizational level from which reports are received results in firms being classified into different industries in the BLS and Census surveys and, consequently, limits somewhat the comparability of the data collected by these agencies. However, as we know from past studies in this area, some differences in industrial classification between BLS and Census data would remain even if reports came from the same organizational levels.

Both the Census and the BLS data include a significant amount of nondefense activities carried on by companies and establishments classified in the above industries. For example, the data cover the production of commercial as well as military aircraft. On the other hand, they exclude significant amounts of defense work carried on by companies and establishments classified in industries other than those listed above (e.g., the manufacture of military uniforms and the shipbuilding industry).<sup>2</sup>

Census data for "defense products" are based on separate reports on defense work filed by large defense contractors in the ordnance, communications, complete aircraft, aircraft parts, and shipbuilding industries. Thus, they differ from the "defense products industries" data in that they include defense activity in the shipbuilding industry and exclude nondefense work in the other industries covered. Defense products data cover work for the Department of Defense and exclude contracts for the National Aeronautics and Space Administration and the Atomic Energy Commission.

The DOD data are not strictly comparable in coverage with either the BLS or the Census data since the Defense Department figures (1) cover products of industries not included in the defense products category; (2) generally do not include non-defense activities (except that some series, such as contract awards, include activities by the Department of Defense on behalf of nondefense agencies); and (3) do not cover intermediate activities such as those related to subcontracting and supplying of parts. Thus, the Census Bureau data for manufacturers' new orders and shipments of defense products industries, for example, differ in coverage from the DOD contract awards and net outlays series.

The Department of Defense data are not comparable with Federal Government purchases of goods and services for national defense or the Treasury Department obligations and outlays data since the BEA and Treasury data cover defense-related activities of other agencies such as the Atomic Energy Commission, the Selective Service System, and the Office of Emergency Planning.

Projects to improve the comparability of the data collected by the Bureau of the Census, the Bureau of Labor Statistics, and the Department of Defense and to improve the separation of defense and nondefense activity for the Census and BLS data are being undertaken by the statistical agencies under the leadership of the Interagency Committee mentioned earlier in this report.

<sup>2</sup> See the Bureau of the Census publication *Shipments of Defense-Oriented Industries*, Current Industrial Reports, Series MA-175, for annual estimates of shipments by industry to the Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission. Included also are industries not covered by the "defense products industries" category.

### Variability of Data

Seasonal variations dominate the movements of many time series, and adjustments for average seasonal fluctuations are often necessary to bring out the underlying trends of the series. These seasonal adjustments allow for the effects of repetitive intrayear variations resulting primarily from normal differences in weather conditions and from various institutional arrangements. An additional adjustment is sometimes necessary for series which contain considerable variation resulting from the number of working or trading days in each month. As used in this report, the term "seasonal adjustment" includes trading-day adjustments where they have been made.

Most of the series in this report are shown in seasonally adjusted form. For Defense Department and BLS series, unadjusted data are also shown since they are not readily available elsewhere. Current seasonal adjustment factors are shown in appendix A.

The effect of seasonal adjustment in reducing the month-to-month variation in the data can be seen in appendix B. There, the first two columns show the average month-to-month percent change (without regard to sign) in the data before and after seasonal adjustment. Some series still show very irregular month-to-month movements after adjustment for seasonal variation. The measures in appendix B also indicate the month-to-month variation in the irregular and short-term trend components of the series. For many series, irregular movements tend to dominate 1- or 2-month comparisons, and the underlying short-term trend becomes dominant in comparisons over longer spans. The "months for cyclical dominance" (MCD) measure estimates the span of months required for the short-term trend to dominate the irregular component. Series with an MCD of 4 or more are supplemented with a moving average (with the

number of terms equal to MCD) in the charts. Data for these moving averages are listed in the basic data tables.

### Guide to Charts and Tables

Most series are plotted on a standard ratio scale so that equal percent changes cover the same vertical distance. For these series, an increase of 100 percent covers approximately 1 inch. Arithmetic scales are used for series with zero or negative data, series which could approach zero (e.g., average overtime hours and layoff rate), and series expressed in percent.

In general, monthly data are plotted with a solid line and quarterly data are represented by a solid line with quarterly plot points. Quarterly series are also identified with a "Q" after their titles. For series which include a moving average, a dashed line is used for the actual monthly data and a solid line for the moving average. (The moving average values are centered within the span of months they are computed from.) Exceptions to this scheme may be necessary for special situations. Data apply to the whole period except for series designated "EOM" (end of month) or "EOQ" (end of quarter). The number in the box at the right of each series indicates the latest month (Arabic) or quarter (Roman) plotted. Parallel lines across a series indicate a break in continuity (e.g., data not available or change in series definition).

Tables 1, 2, 3, and 4 present current data for the series shown in the charts, including the moving averages. They also include unadjusted data for some series and data for related series which are not plotted. Table A summarizes the most recent data and percent changes for many of the series in the report. Historical data are shown on an intermittent basis in appendix C. (The index indicates the appropriate issue for each series.)

The December issue of DEFENSE INDICATORS is scheduled  
for release on December 30.



# Table A. Summary of Recent Data and Current Percent Changes for Principal Defense Indicators

(Preliminary and revised figures are not identified here but the user may consult tables 1, 2, 3, and 4 where such identification is given)

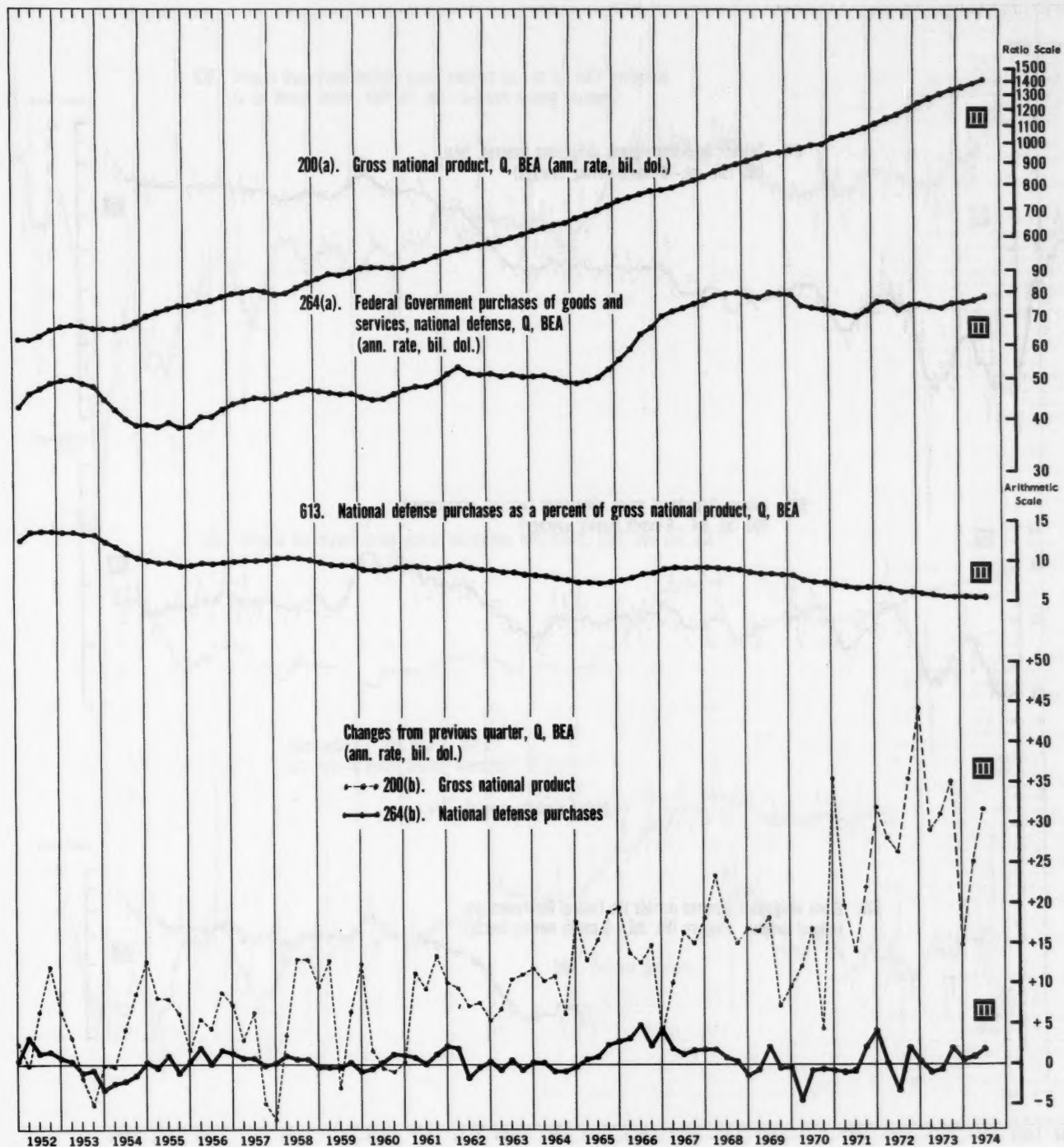
Series title	Unit of measure	Basic data								Percent change				Series number
		Average		1st Q 1974	2d Q 1974	3d Q 1974	Aug. 1974	Sept. 1974	Oct. 1974	Aug. '74 to Sept. '74	Sept. '74 to Oct. '74	1st Q '74 to 2d Q '74	2d Q '74 to 3d Q '74	
		1972	1973											
GROSS NATIONAL PRODUCT AND NATIONAL DEFENSE PURCHASES														
200. Gross national product (BEA) .....	Ann. rate, bil. dol. ....	1158.0	1294.9	1358.8	1383.8	1415.4	...	...	...	...	...	1.8	2.3	200
264. Federal Government purchases of goods and services, national defense (BEA) .....	..... do .....	74.8	74.4	75.8	76.6	78.4	...	...	...	...	...	1.1	2.3	264
613. National defense purchases as a percent of GNP (BEA) <sup>1</sup> .....	Percent .....	6.4	5.8	5.6	5.5	5.5	...	...	...	...	...	-0.1	0.0	613
ADVANCE INDICATORS OF DEFENSE ACTIVITY														
Defense Dept. gross obligations incurred (DOD):														
617. Total .....	Ann. rate, bil. dol. ....	84.7	85.5	90.3	91.9	99.1	105.8	92.6	NA	-12.5	NA	1.8	7.8	617
621. Procurement .....	..... do .....	20.3	18.8	21.7	19.1	21.8	20.3	22.1	NA	8.9	NA	-12.0	14.1	621
623. Gross obligations incurred outside the Federal Government for national defense (Treasury) .....	..... do .....	88.6	89.1	95.8	97.8	NA	110.4	NA	NA	NA	NA	2.1	NA	623
625. Defense Department military prime contract awards for work performed in the U.S. (DOD) .....	..... do .....	36.0	35.3	36.8	42.7	44.6	49.8	42.0	NA	-15.7	NA	16.0	4.4	625
643. Defense Department gross unpaid obligations outstanding (DOD) .....	Bil. dol., end of period .....	34.2	36.8	37.4	38.9	40.5	40.2	40.5	NA	0.7	NA	4.0	4.1	643
648. Mfrs.' new orders, defense products (Census) .....	Ann. rate, bil. dol. ....	19.5	20.5	22.8	21.4	25.1	38.7	20.1	15.9	-48.1	-20.9	-6.1	17.3	648
650. Manufacturers' new orders from the U.S. Government, aerospace industries (Census) .....	..... do .....	14.8	15.9	18.9	12.6	NA	...	...	...	...	...	-33.3	NA	650
653. Average weekly overtime hours, production workers, defense products industries (BLS) <sup>1</sup> .....	Hours .....	2.8	3.1	2.9	2.9	2.9	2.9	2.7	NA	-0.2	NA	0.0	0.0	653
654. Accessions, defense products industries (BLS) <sup>1</sup> .....	Number per 100 employees .....	2.1	2.2	2.0	2.2	NA	2.2	NA	NA	NA	NA	0.2	NA	654
655. Layoffs, defense products industries (BLS) <sup>1</sup> .....	..... do .....	0.8	0.6	0.4	0.7	NA	0.6	NA	NA	NA	NA	0.3	NA	655
INTERMEDIATE AND FINAL INDICATORS OF DEFENSE ACTIVITY														
657. Output of defense and space equipment (FRB) ...	1967=100 .....	77.9	80.4	81.1	81.5	83.2	83.1	83.8	83.8	0.8	0.0	0.5	2.1	657
659. Mfrs.' inventories, defense products (Census) .....	Bil. dol., end of period .....	5.1	5.6	6.0	6.2	6.4	6.4	6.4	NA	0.0	NA	3.3	3.2	659
661. Mfrs.' unfilled orders, defense products (Census) .....	..... do .....	19.1	20.7	21.7	22.3	24.0	23.9	24.0	23.6	0.4	-1.7	2.8	7.6	661
664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries (Census) .....	..... do .....	15.1	16.4	17.4	16.9	NA	...	...	...	...	...	-2.9	NA	664
666. Defense Department progress payments outstanding (DOD) <sup>(1)</sup> .....	..... do .....	6.7	7.4	7.8	8.1	NA	...	...	...	...	...	3.8	NA	666
Employment in defense products industries (BLS):														
670. Total .....	Thousands .....	1,119	1,144	1,145	1,147	1,139	1,117	1,151	1,154	3.0	0.3	0.2	-0.7	670
671. Production workers .....	..... do .....	581	606	606	606	591	567	604	605	6.5	0.2	0.0	-2.5	671
673. Index of aggregate weekly man-hours, defense products industries (BLS) .....	1967=100 .....	NA	NA	NA	NA	67.0	65.3	67.9	NA	4.0	NA	NA	NA	673
675. Index of aggregate weekly payrolls, production workers, defense products industries (BLS) .....	..... do .....	NA	NA	NA	NA	94.5	89.6	98.4	NA	9.8	NA	NA	NA	675
Defense Department manpower (DOD): <sup>(1)</sup>														
677. Military .....	Thousands, end of period .....	2,348	2,202	2,187	2,162	NA	2,153	NA	NA	NA	NA	-1.1	NA	677
678. Civilian .....	..... do .....	1,082	1,026	1,042	1,070	NA	1,064	NA	NA	NA	NA	2.7	NA	678
Defense Department net outlays (DOD):														
680. Total, military functions and military assistance .....	Ann. rate, bil. dol. ....	75.6	76.3	79.2	80.4	86.6	87.0	89.6	85.5	3.0	-4.6	1.5	7.7	680
682. Procurement .....	..... do .....	17.1	15.7	15.1	15.0	14.3	17.1	16.1	16.5	-5.8	2.5	-0.7	-4.7	682
683. Budget outlays for the national defense function (Treasury) .....	..... do .....	77.7	78.0	80.1	81.8	85.1	87.4	88.9	NA	1.7	NA	2.1	4.0	683
685. Defense Dept. personnel compensation (DOD) .....	..... do .....	32.0	32.4	32.6	32.9	NA	34.2	NA	NA	NA	NA	0.9	NA	685
688. Mfrs.' shipments, defense products (Census) .....	..... do .....	17.9	18.8	19.1	19.1	18.3	18.0	19.7	20.1	9.4	2.0	0.0	-4.2	688
689. Manufacturers' shipments to the U.S. Government, aerospace industries (Census) .....	..... do .....	13.6	14.4	14.9	15.2	NA	...	...	...	...	...	2.0	NA	689
691. Ratio, manufacturers' unfilled orders to shipments, defense products (Census) .....	Ratio .....	12.5	12.7	13.6	13.8	15.4	16.0	14.6	14.1	-8.7	-3.4	1.5	11.6	691
693. Ratio, manufacturers' inventories to shipments, defense products (Census) .....	..... do .....	3.2	3.5	3.7	3.8	4.2	4.3	3.9	NA	-9.3	NA	2.7	10.5	693
DEFENSE-RELATED BALANCE OF PAYMENTS COMPONENTS														
546. Transfers under U.S. military agency sales contracts—exports (BEA) <sup>1</sup> .....	Ann. rate, mil. dol. ....	1,154	2,354	2,692	2,620	NA	...	...	...	...	...	-72	NA	546
547. Direct defense expenditures—imports (BEA) <sup>1</sup> <sup>(1)</sup> .....	..... do .....	4,759	4,555	4,664	5,164	NA	...	...	...	...	...	500	NA	547
696. U.S. Government cash receipts associated with military sales contracts (BEA) <sup>1</sup> .....	..... do .....	1,387	2,290	2,084	2,100	NA	...	...	...	...	...	16	NA	696

NOTE: This table is presented as a convenient summary of the current data for many of the indicators in this report. In many cases, data shown here are rounded to fewer digits or are in different units than those shown in tables 1, 2, 3, and 4. Where available, annual figures are those published by the source agencies; otherwise they (and the quarterly figures for monthly series) are averages or totals of the data as shown in the data tables. Series are seasonally adjusted except for those indicated by <sup>1</sup>, which appear to contain no seasonal movement.

NA = not available. <sup>2</sup>Differences rather than percent changes are shown for this series.

CHART  
**1**

# Gross National Product and National Defense Purchases

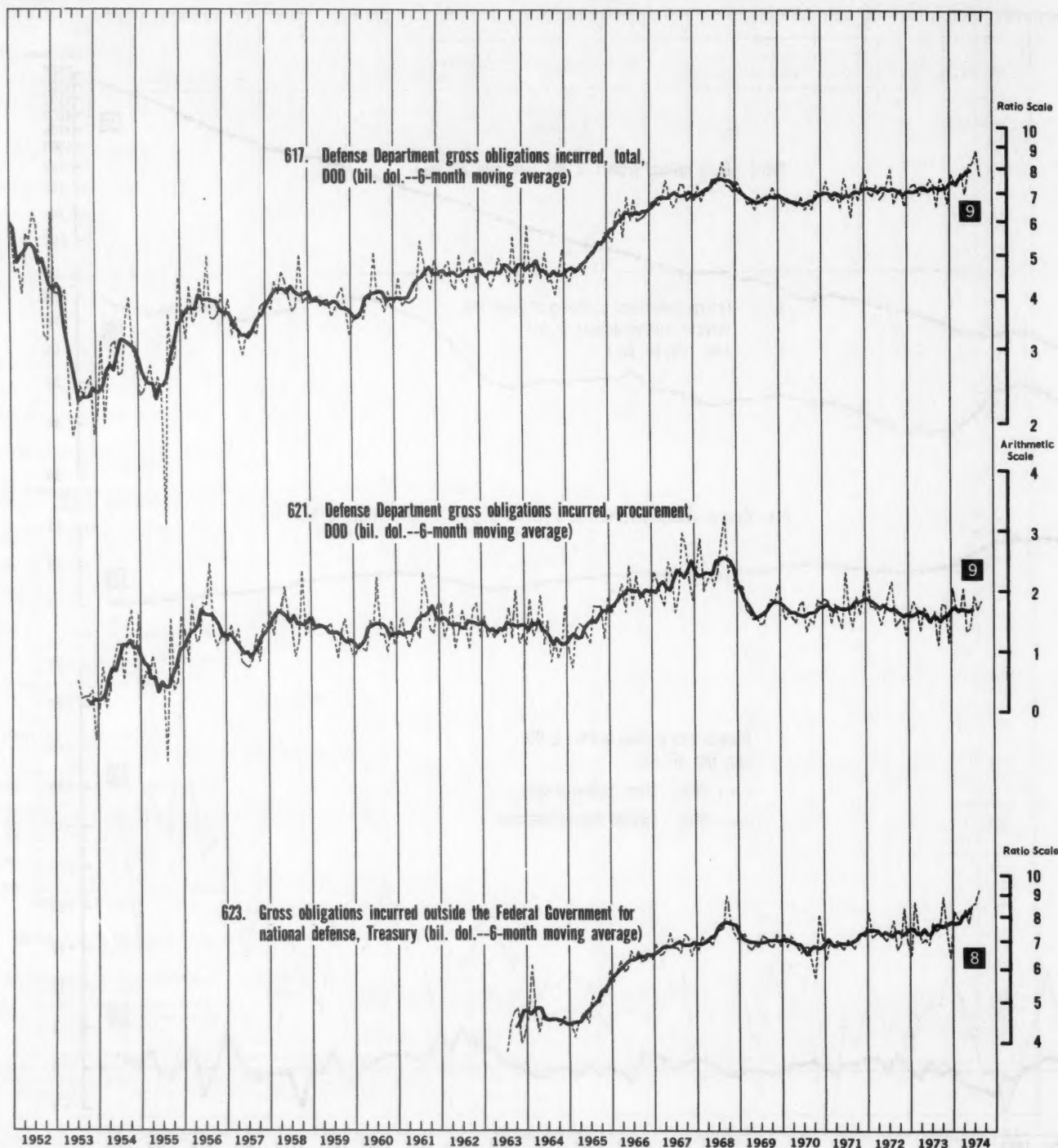


Current data for these series are shown on page 14.

CHART

2

# Advance Indicators of Defense Activity

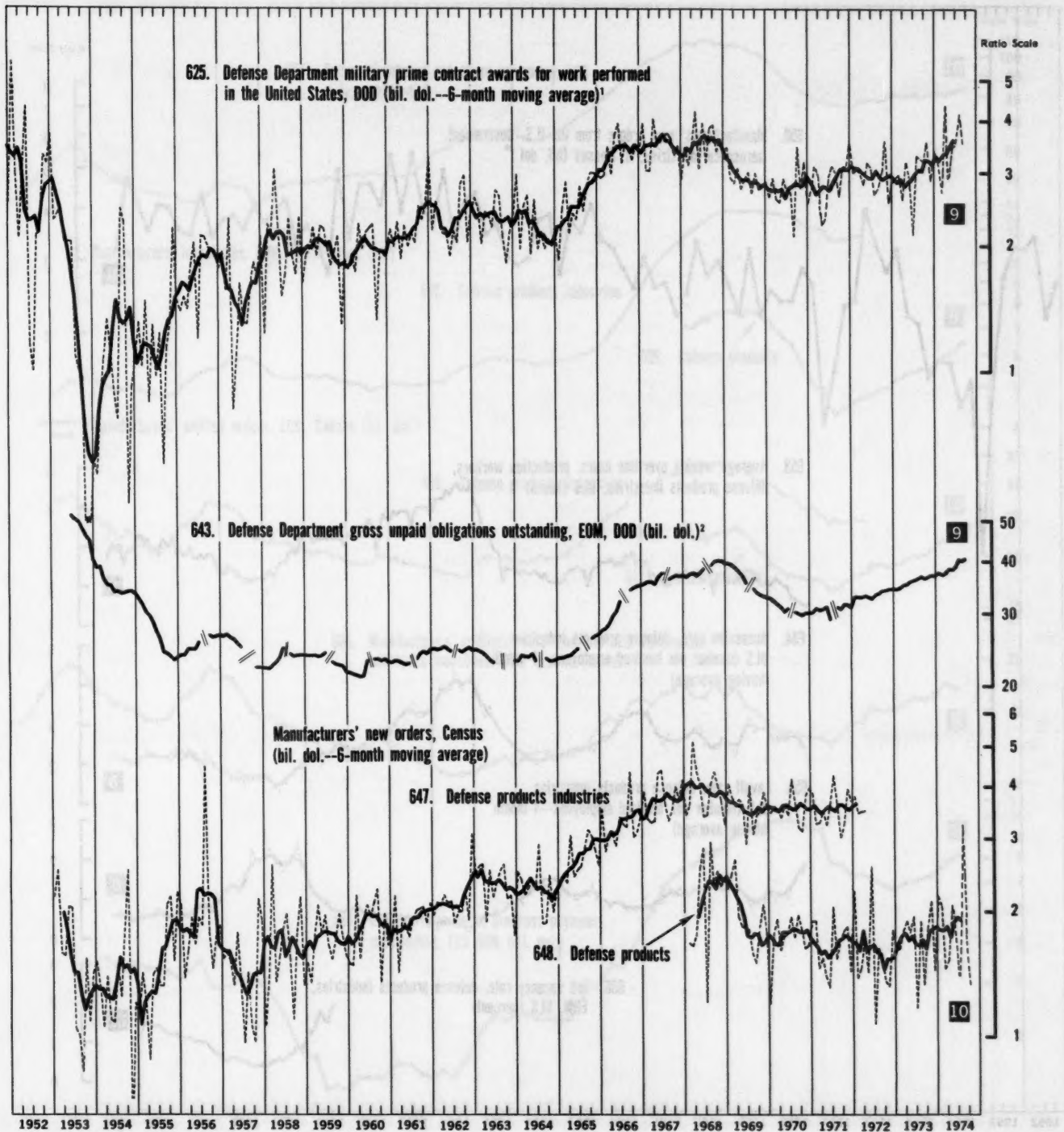


Current data for these series are shown on pages 15 and 16.



# Advance Indicators of Defense Activity--Continued

CHART  
2



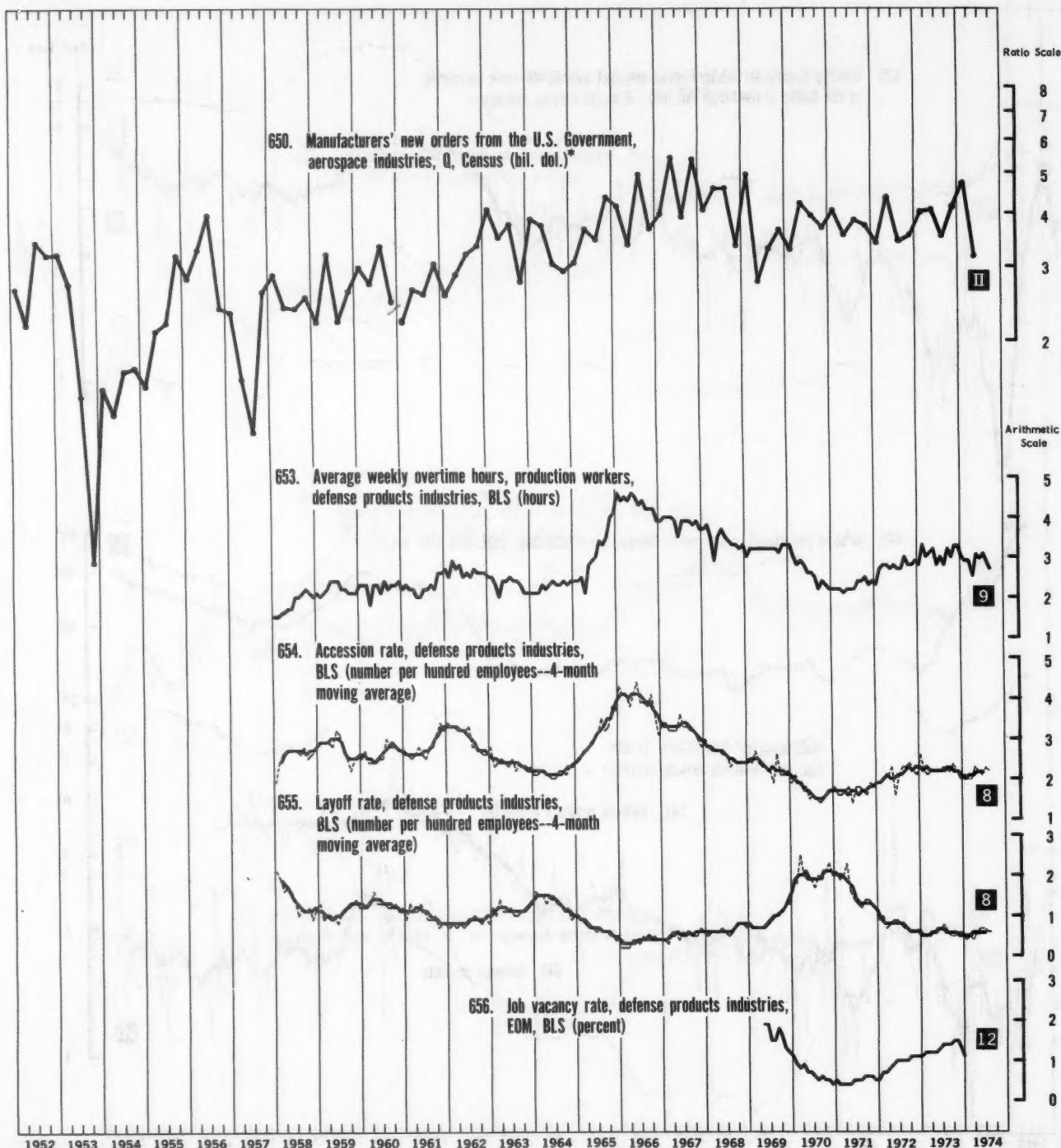
<sup>1</sup> Data prior to July 1955 exclude orders written to other Government agencies.

<sup>2</sup> Data for the following months not available: July of 1956-71; August of 1956-57 and 1963-66; September of 1957, 1963, and 1965; and October and November of 1963.

\*Contract awards for November 1953--\$265 million; December 1953--\$390 million. Current data for these series are shown on pages 16 and 20.

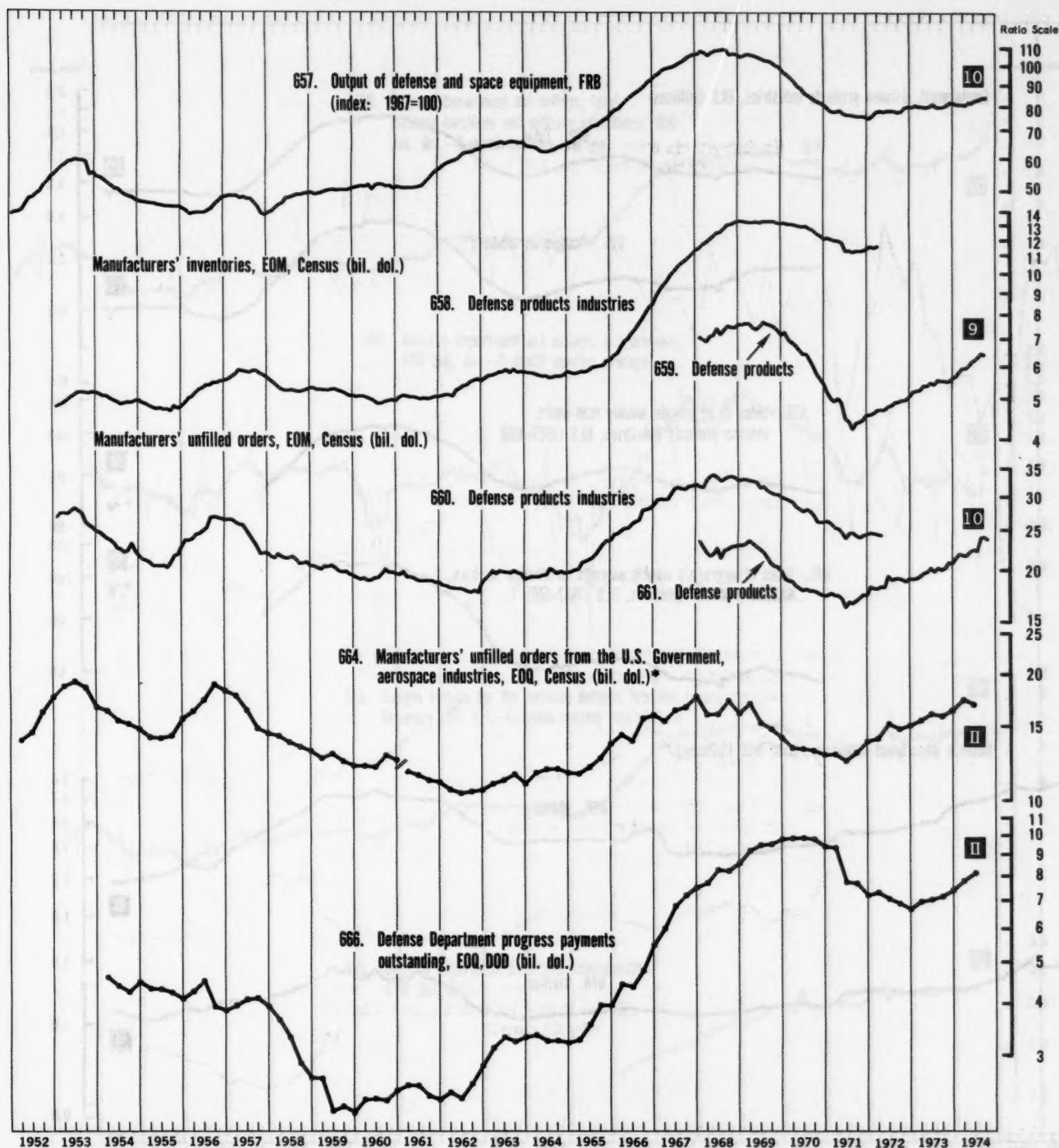


## Advance Indicators of Defense Activity--Continued



\*Data prior to 1961 include orders from non-Government customers.  
Current data for these series are shown on pages 20 and 21.

# Intermediate and Final Indicators of Defense Activity

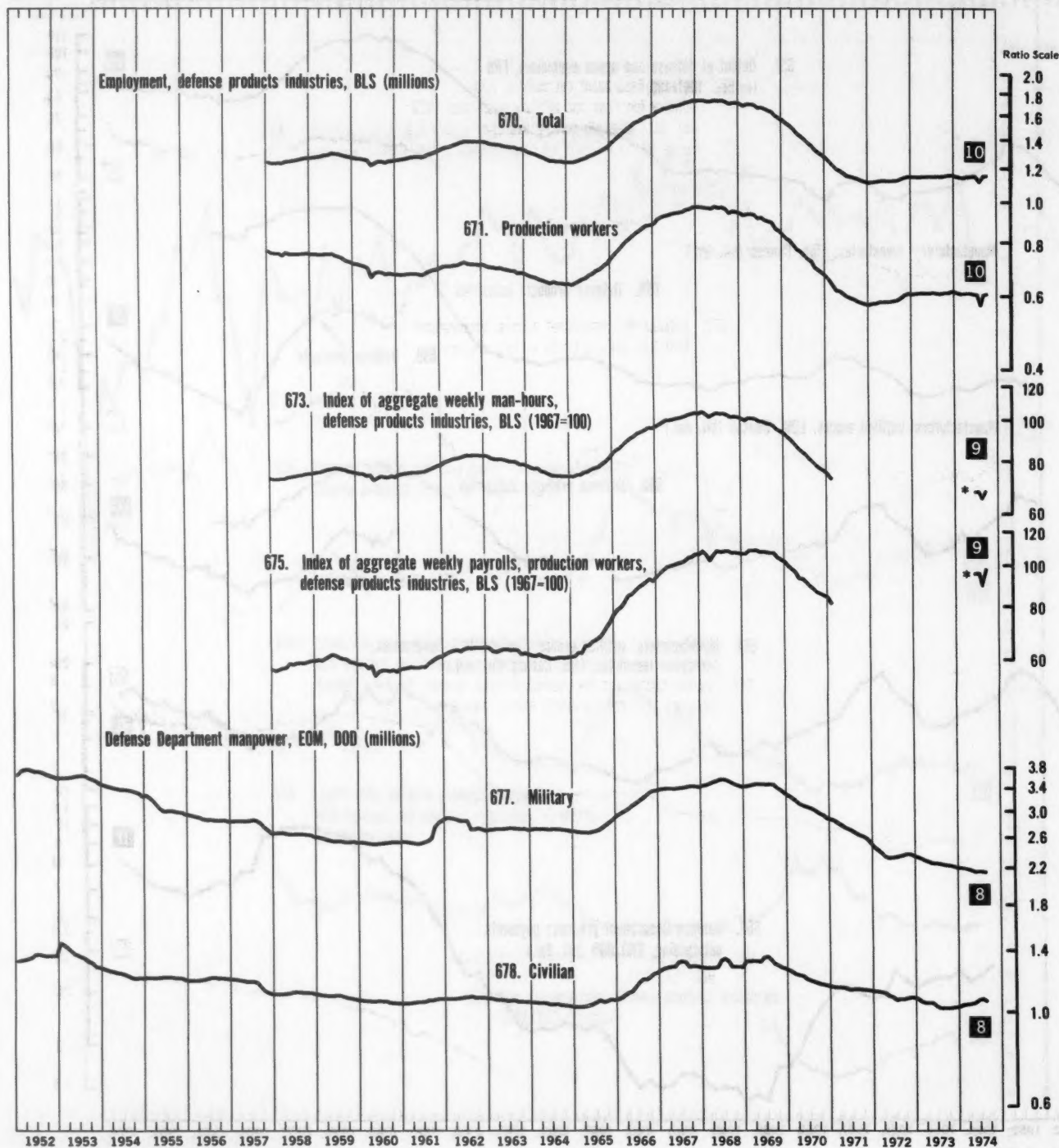


\*Data prior to 1961 include orders from non-Government customers.  
Current data for these series are shown on page 22.



CHART  
**3**

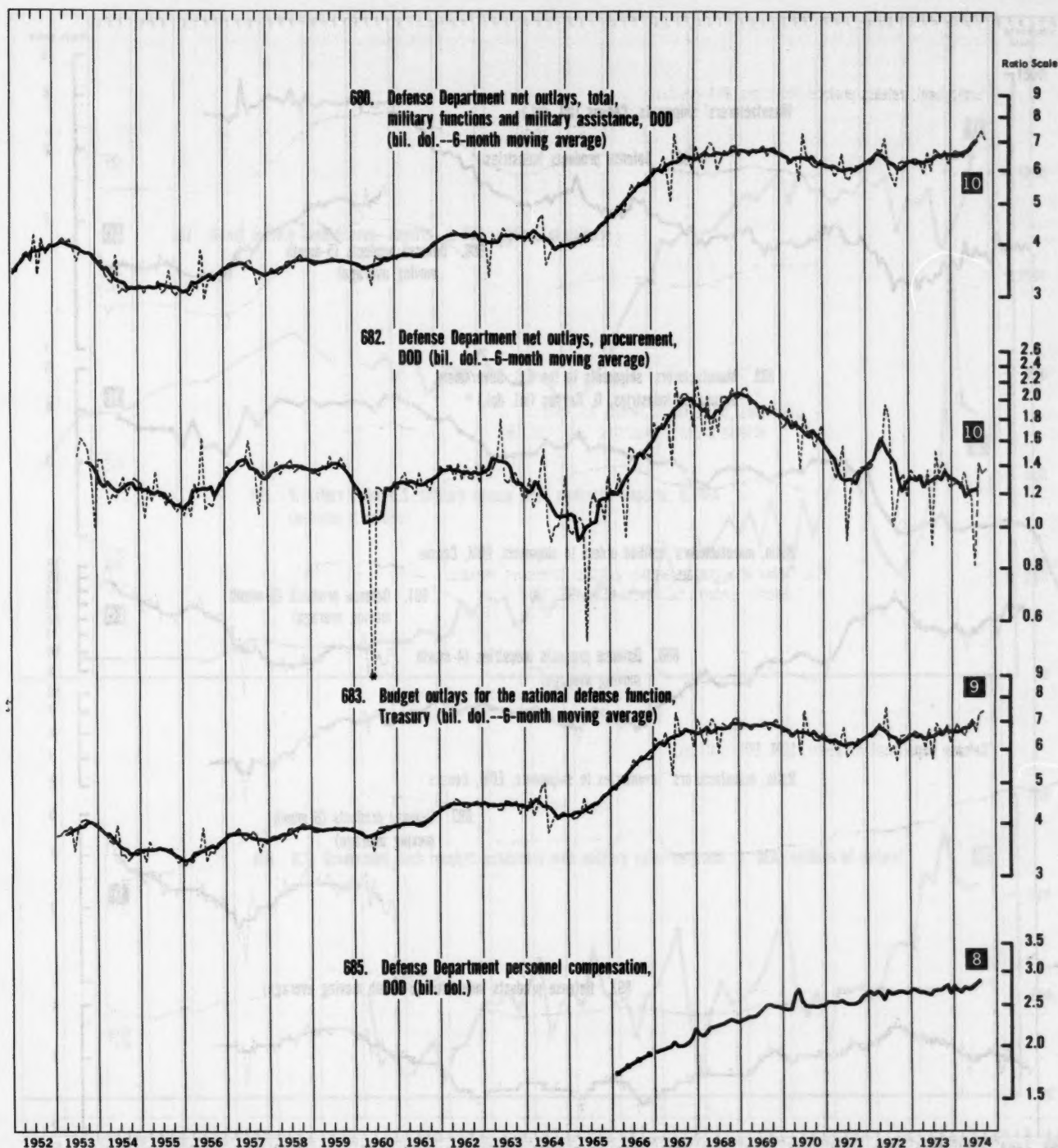
**Intermediate and Final Indicators of Defense Activity--Continued**



\*Data for the period March 1971 through May 1974 are not available (see page 23).  
Current data for these series are shown on pages 22, 23, and 24.

CHART  
3

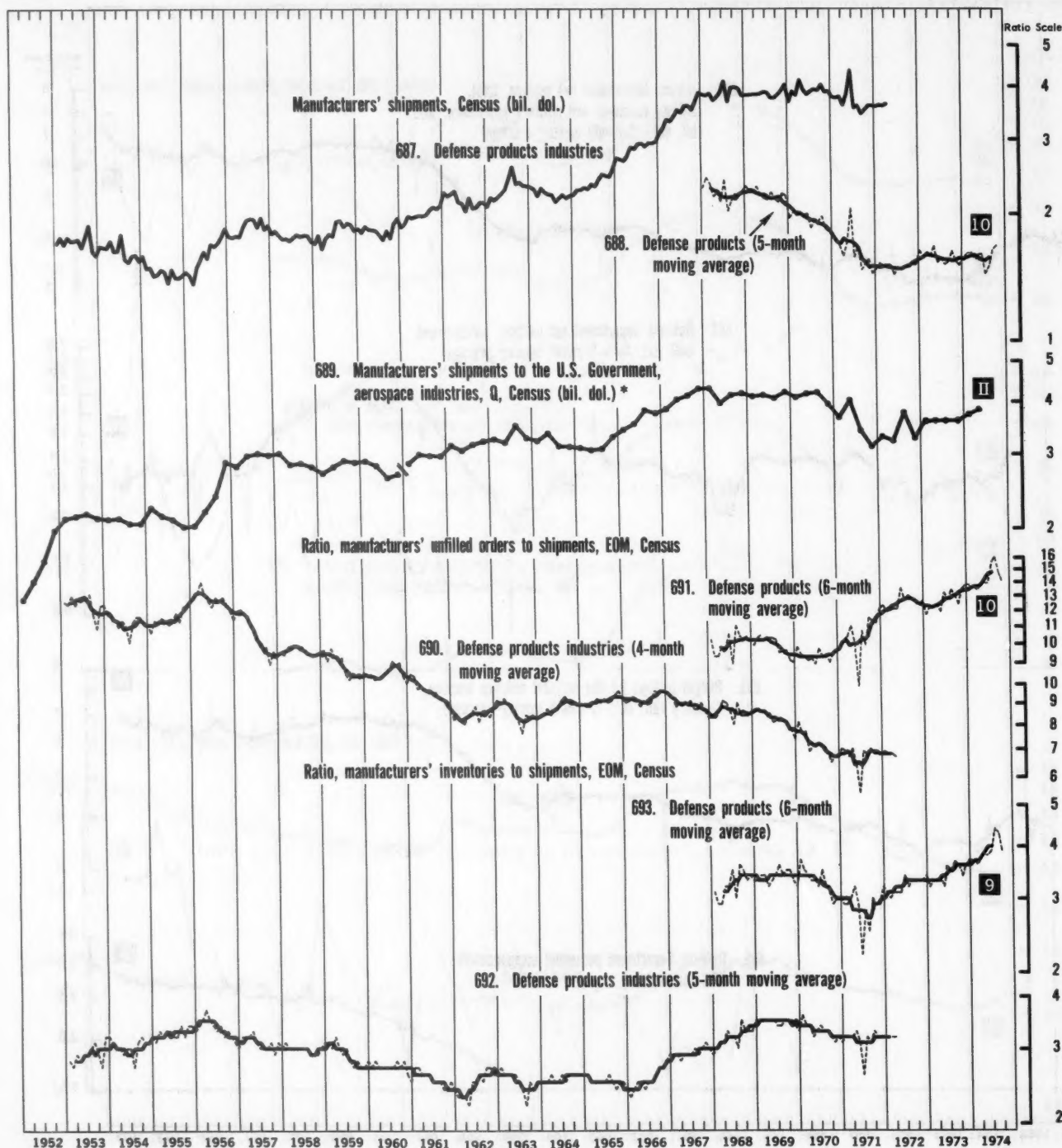
# Intermediate and Final Indicators of Defense Activity--Continued



\*Net expenditures for procurement, June 1960--\$245 million.  
Current data for these series are shown on pages 24 and 25.

3

# Intermediate and Final Indicators of Defense Activity--Continued



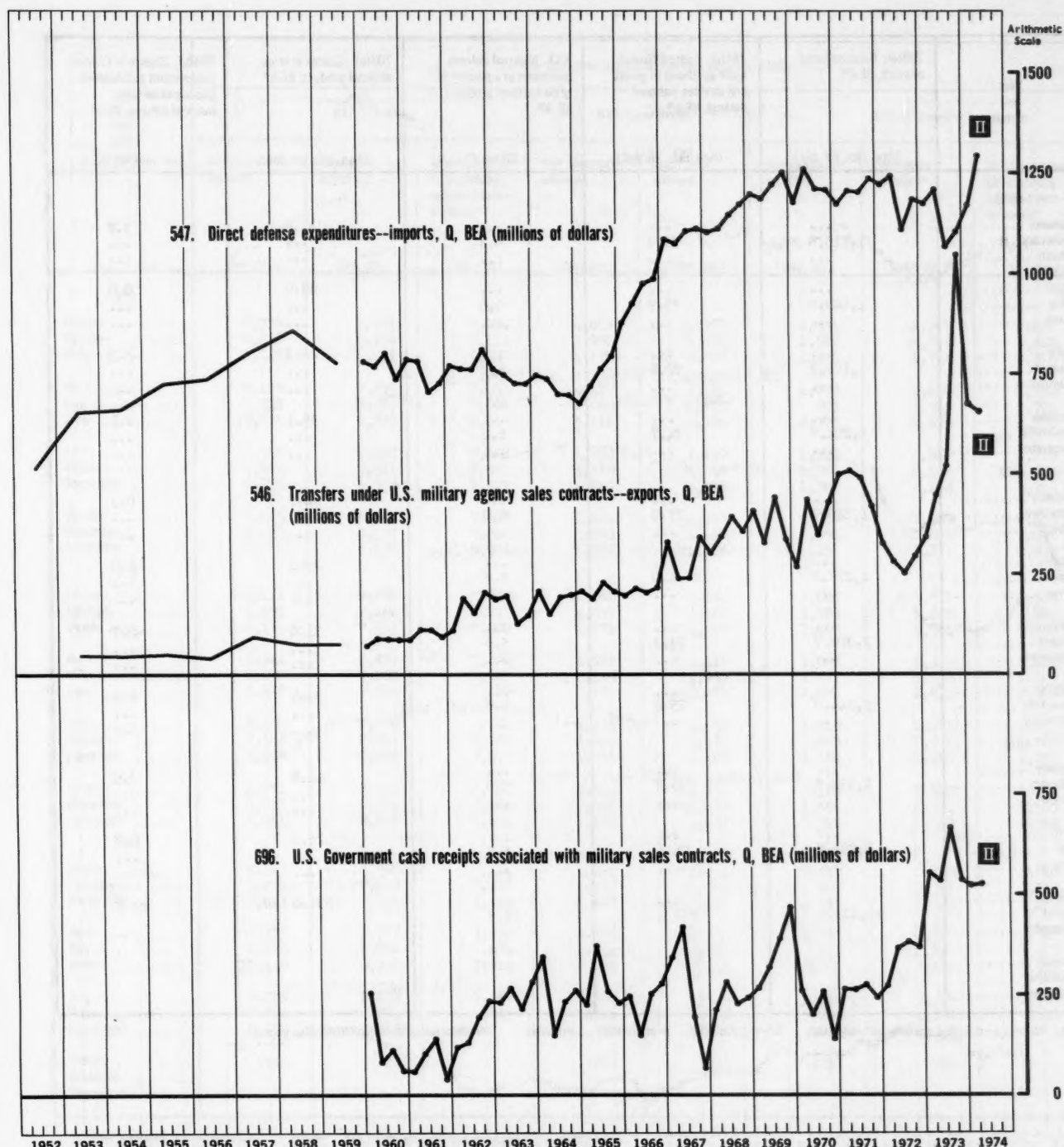
\*Data prior to 1961 include shipments to non-Government customers.  
Current data for these series are shown on page 26.



CHART

4

# Defense-Related Balance of Payments Components



Current data for these series are shown on page 27.

defense indicators

TABLE

1

Gross National Product and National Defense Purchases

Year and month	200(a). Gross national product, BEA* (Ann. rate, bil. dol.)	264(a). Federal Government purchases of goods and services, national defense, BEA* (Ann. rate, bil. dol.)	613. National defense purchases as a percent of gross national product, BEA* (Percent)	200(b). Change in gross national product, BEA* (Ann. rate, bil. dol.)	264(b). Change in Federal Government purchases of goods and services, national defense, BEA* (Ann. rate, bil. dol.)
1972					
January .....	...	...	...	31.8	3.8
February .....	1,115.0	75.9	6.8	...	...
March .....	...	...	...	...	...
April .....	...	...	...	28.0	0.0
May .....	1,143.0	75.9	6.6	...	...
June .....	...	...	...	...	...
July .....	...	...	...	26.3	-3.3
August .....	1,169.3	72.6	6.2	...	...
September .....	...	...	...	...	...
October .....	...	...	...	35.4	2.1
November .....	1,204.7	74.7	6.2	...	...
December .....	...	...	...	...	...
1973					
January .....	...	...	...	44.2	0.3
February .....	1,248.9	75.0	6.0	...	...
March .....	...	...	...	...	...
April .....	...	...	...	29.0	-1.0
May .....	1,277.9	74.0	5.8	...	...
June .....	...	...	...	...	...
July .....	...	...	...	31.0	-0.7
August .....	1,308.9	73.3	5.6	...	...
September .....	...	...	...	...	...
October .....	...	...	...	35.1	2.0
November .....	1,344.0	75.3	5.6	...	...
December .....	...	...	...	...	...
1974					
January .....	...	...	...	14.8	0.5
February .....	1,358.8	75.8	5.6	...	...
March .....	...	...	...	...	...
April .....	...	...	...	25.0	0.8
May .....	1,383.8	76.6	5.5	...	...
June .....	...	...	...	...	...
July .....	...	...	...	r31.6	r1.8
August .....	r1,415.4	r78.4	r5.5	...	...
September .....	...	...	...	...	...
October .....	...	...	...	...	...
November .....	...	...	...	...	...
December .....	...	...	...	...	...

Note: All data on this page are seasonally adjusted. NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 5.)

## Advance Indicators of Defense Activity

Year and month	Defense Department gross obligations incurred, DOD							
	617. Total			619. Operations		621. Procurement		
	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972								
January .....	7,772	7,721	7,134	4,623	4,572	2,534	2,329	1,887
February .....	6,542	6,956	7,133	3,990	4,338	1,667	1,755	1,845
March .....	6,445	6,854	7,139	4,170	4,375	1,470	1,744	1,816
April .....	6,455	7,290	7,073	4,437	4,361	1,278	1,660	1,768
May .....	5,813	6,729	7,005	4,084	4,323	993	1,448	1,704
June .....	9,429	6,889	7,166	5,110	4,396	2,975	1,670	1,771
July .....	7,769	7,310	7,123	4,933	4,410	1,310	1,949	1,719
August .....	7,810	7,921	7,065	4,559	4,456	1,767	2,158	1,694
September .....	6,899	6,599	7,127	4,345	4,516	1,582	1,432	1,722
October .....	7,178	6,941	7,067	4,647	4,419	1,757	1,507	1,656
November .....	6,489	7,102	7,014	4,193	4,488	1,556	1,617	1,603
December .....	6,066	6,530	6,904	4,027	4,456	1,456	1,274	1,550
1973								
January .....	7,414	6,990	7,023	4,688	4,494	1,815	1,631	1,595
February .....	6,691	7,260	7,011	4,097	4,656	1,785	1,838	1,569
March .....	6,716	7,313	7,009	4,174	4,427	1,435	1,704	1,588
April .....	6,342	6,873	7,096	4,522	4,445	1,028	1,349	1,648
May .....	5,997	7,086	7,183	4,195	4,393	1,171	1,730	1,623
June .....	9,327	7,054	7,190	5,122	4,471	2,871	1,633	1,596
July .....	8,180	7,510	7,052	5,334	4,679	1,019	1,483	1,495
August .....	7,505	7,304	7,162	4,634	4,552	1,393	1,676	1,568
September .....	6,289	6,486	7,197	4,201	4,429	1,168	1,099	1,575
October .....	8,074	7,533	7,120	5,024	4,716	2,105	1,788	1,494
November .....	6,917	7,293	7,160	4,346	4,652	1,714	1,771	1,593
December .....	6,041	6,597	7,172	4,133	4,643	1,321	1,149	1,599
1974								
January .....	8,113	7,750	7,334	4,991	4,714	2,337	2,077	1,689
February .....	6,826	7,375	7,377	4,187	4,758	1,677	1,708	1,731
March .....	6,613	7,458	7,320	4,377	4,699	1,381	1,642	1,658
April .....	7,375	7,787	7,594	4,982	4,804	1,546	2,040	1,702
May .....	6,104	6,952	7,674	4,434	4,662	894	1,330	1,675
June .....	10,110	8,240	7,914	6,170	5,466	2,465	1,412	1,672
July .....	9,285	8,235	7,957	5,901	5,110	1,332	1,919	1,706
August .....	8,874	8,814	(NA)	5,224	5,203	1,416	1,692	(NA)
September .....	7,790	7,715		4,771	5,040	1,919	1,842	
October .....	(NA)	(NA)		(NA)	(NA)	(NA)	(NA)	
November .....								
December .....								

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 6.)



# defense indicators

TABLE

2

## Advance Indicators of Defense Activity--Continued

Year and month	623. Gross obligations incurred outside the Federal Government for national defense, Treasury		Defense Department military prime contract awards for work performed in the United States, DOD						
			625. Total			626. Aircraft		627. Missile and space systems	
	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972									
January .....	8,256	7,399	3,210	3,520	3,048	634	...	359	...
February .....	7,168	7,444	2,499	2,982	3,112	469	1,981	410	1,395
March .....	7,294	7,421	2,871	3,025	3,061	726	...	473	...
April .....	7,401	7,392	2,167	2,985	3,075	471	...	257	...
May .....	7,196	7,239	2,204	2,786	3,001	367	2,129	209	1,255
June .....	7,037	7,355	5,574	3,154	2,944	1,586	...	481	...
July .....	7,335	7,257	3,415	3,074	2,894	955	...	681	...
August .....	7,867	7,177	2,593	2,638	2,887	529	1,940	326	1,154
September .....	6,707	7,381	2,815	2,725	3,021	523	...	481	...
October .....	6,923	7,371	3,008	2,946	2,917	395	...	516	...
November .....	8,416	7,231	2,997	3,589	2,876	427	1,584	491	1,283
December .....	6,977	7,371	2,611	2,532	2,919	612	...	359	...
1973									
January .....	6,496	7,490	2,578	2,824	2,956	728	...	377	...
February .....	8,706	7,501	2,418	2,899	2,893	328	1,942	297	1,306
March .....	7,421	7,281	2,841	2,947	2,824	721	...	504	...
April .....	6,986	p7,264	1,854	2,568	2,884	122	...	233	...
May .....	7,098	p7,477	2,489	3,171	2,765	866	1,948	129	967
June .....	p6,877	p7,266	5,122	2,897	2,828	1,243	...	349	...
July .....	7,773	p7,294	2,357	2,106	2,873	396	...	207	...
August .....	7,441	p7,619	3,224	3,276	2,975	611	1,804	921	1,200
September .....	7,588	p7,672	3,309	3,222	3,032	867	...	435	...
October .....	8,935	7,592	3,198	3,176	3,024	939	...	368	...
November .....	7,417	7,674	2,967	3,515	3,236	686	2,150	283	1,138
December .....	6,396	7,746	2,944	2,850	3,214	316	...	563	...
1974									
January .....	8,264	7,784	3,084	3,378	3,123	1,093	...	206	...
February .....	7,874	7,673	2,613	3,141	3,317	598	2,424	305	844
March .....	7,819	7,712	2,602	2,677	3,212	517	...	255	...
April .....	8,270	p8,068	3,127	4,343	3,310	459	...	303	...
May .....	7,647	p8,128	2,250	2,881	3,329	308	1,104	297	1,271
June .....	p8,534	p8,350	6,086	3,440	3,498	502	...	323	...
July .....	8,625	(NA)	3,924	3,494	3,636	1,089	...	618	...
August .....	9,202		4,091	4,153	(NA)	591	2,446	430	1,448
September .....	(NA)		3,586	3,502		866		848	
October .....			(NA)	(NA)		(NA)		(NA)	
November .....									
December .....									

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See pages 6 and 7.)

## Advance Indicators of Defense Activity--Continued

Year and month	Defense Department military prime contract awards for work performed in the United States, DOD--Continued						
	628. Ships, not seasonally adjusted	629. Weapons and ammunition		630. Electronic and communications equipment		631. Combat vehicles	
		Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972							
January .....	851	257	...	307	...	13	...
February .....	132	250	779	324	1,083	7	51
March .....	165	225	...	347	...	13	...
April .....	59	235	...	248	...	37	...
May .....	89	225	734	272	959	17	103
June .....	194	448	...	731	...	72	...
July .....	160	41	...	234	...	6	...
August .....	370	82	562	215	931	18	131
September .....	311	166	...	298	...	140	...
October .....	276	292	...	302	...	15	...
November .....	266	269	614	401	937	40	98
December .....	148	236	...	228	...	33	...
1973							
January .....	84	207	...	214	...	14	...
February .....	378	226	658	215	939	11	60
March .....	85	195	...	420	...	11	...
April .....	82	150	...	237	...	12	...
May .....	78	184	725	351	959	15	65
June .....	139	566	...	654	...	54	...
July .....	337	21	...	131	...	50	...
August .....	220	81	436	354	990	24	80
September .....	203	114	...	313	...	27	...
October .....	161	105	...	248	...	116	...
November .....	465	106	310	392	900	21	214
December .....	588	192	...	261	...	56	...
1974							
January .....	52	135	...	311	...	102	...
February .....	212	244	541	415	1,013	5	253
March .....	103	142	...	206	...	40	...
April .....	190	170	...	403	...	129	...
May .....	155	123	680	270	1,110	98	502
June .....	1,175	554	...	732	...	404	...
July .....	230	37	...	321	...	59	...
August .....	625	72	453	402	1,316	104	249
September .....	134	111	...	352	...	151	...
October .....	(NA)	(NA)	...	(NA)	...	(NA)	...
November .....							
December .....							

NA=not available; p=preliminary; r=revised.

TABLE

2

# Advance Indicators of Defense Activity--Continued

Year and month	Defense Department military prime contract awards for work performed in the United States, DOD--Continued							
	632. Other hard goods		633. Soft goods		634. Construction		635. Services	
	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972								
January .....	92	...	115	...	74	...	135	...
February .....	135	401	121	516	177	434	148	697
March .....	135	...	125	...	144	...	143	...
April .....	132	...	120	...	147	...	118	...
May .....	169	506	155	551	174	440	163	737
June .....	399	...	141	...	470	...	440	...
July .....	62	...	545	...	138	...	347	...
August .....	106	418	179	557	103	465	325	622
September .....	111	...	127	...	64	...	167	...
October .....	107	...	111	...	77	...	571	...
November .....	111	318	85	539	88	368	132	799
December .....	115	...	358	...	69	...	155	...
1973								
January .....	140	...	141	...	103	...	154	...
February .....	141	458	112	519	205	484	140	755
March .....	130	...	102	...	131	...	152	...
April .....	145	...	113	...	153	...	195	...
May .....	128	480	97	488	151	442	137	776
June .....	393	...	158	...	493	...	446	...
July .....	65	...	489	...	34	...	341	...
August .....	117	432	177	553	111	377	265	653
September .....	106	...	186	...	101	...	252	...
October .....	133	...	154	...	147	...	388	...
November .....	142	365	235	600	54	450	161	663
December .....	108	...	228	...	86	...	178	...
1974								
January .....	128	...	297	...	90	...	204	...
February .....	111	467	145	1,374	52	258	138	900
March .....	179	...	487	...	92	...	181	...
April .....	294	...	344	...	248	...	166	...
May .....	139	564	214	1,081	58	504	168	846
June .....	352	...	256	...	604	...	524	...
July .....	163	...	338	...	131	...	451	...
August .....	158	677	819	890	148	601	303	762
September .....	129	...	219	...	112	...	233	...
October .....	(NA)	...	(NA)	...	(NA)	...	(NA)	...
November .....	...	...	...	...	...	...	...	...
December .....	...	...	...	...	...	...	...	...

NA=not available; p=preliminary; r=revised.



## Advance Indicators of Defense Activity--Continued

Year and month	Defense Department military prime contract awards for work performed in the United States, DOD--Continued					640. Defense Department military prime contract awards for work outside the United States, DOD	
	636. Contracts under \$10,000		637. Educational and nonprofit institutions		638. Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), not seasonally adjusted	Not seasonally adjusted	Seasonally adjusted
	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted			
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972							
January .....	327	...	46	...	...	169	...
February .....	289	942	37	155	...	130	492
March .....	317	...	58	...	...	106	...
April .....	300	...	43	...	...	82	...
May .....	318	901	46	187	...	95	536
June .....	516	...	96	...	...	290	...
July .....	159	...	87	...	...	368	...
August .....	279	954	61	220	...	278	545
September .....	348	...	79	...	...	195	...
October .....	277	...	69	...	0	142	...
November .....	313	911	114	192	260	104	455
December .....	255	...	43	...	0	99	...
1973							
January .....	341	...	41	...	34	156	...
February .....	320	1,003	45	152	0	151	527
March .....	334	...	43	...	13	125	...
April .....	356	...	46	...	10	213	...
May .....	319	977	35	168	-1	83	645
June .....	551	...	76	...	0	264	...
July .....	225	...	61	...	0	368	...
August .....	210	997	123	259	10	244	497
September .....	390	...	86	...	229	159	...
October .....	319	...	85	...	35	194	...
November .....	335	1,059	87	169	0	240	833
December .....	326	...	29	...	13	186	...
1974							
January .....	327	...	76	...	63	160	...
February .....	333	996	55	224	0	114	594
March .....	329	...	58	...	13	198	...
April .....	384	...	37	...	0	80	...
May .....	382	1,066	38	156	0	94	559
June .....	570	...	70	...	20	333	...
July .....	225	...	162	...	100	421	...
August .....	321	1,116	118	316	0	448	632
September .....	380	...	51	...	0	120	...
October .....	(NA)	...	(NA)	...	(NA)	(NA)	...
November .....							
December .....							

NA=not available; p=preliminary; r=revised.

# defense indicators

TABLE

2

## Advance Indicators of Defense Activity--Continued

Year and month	Defense Department gross unpaid obligations outstanding, DOD						648. Manufacturers' new orders, defense products, Census		650. Manufacturers' new orders from the U.S. Government, aerospace industries, Census, seasonally adjusted*
	643. Total		644. Operations		645. Procurement				
	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted	Not seasonally adjusted	Seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*	
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	
1972									
January .....	33,734	32,879	5,303	4,998	21,702	21,131	2,241	1,692	...
February .....	33,554	32,832	5,021	5,011	21,877	21,364	1,384	1,680	3,399
March .....	32,480	32,742	4,635	4,864	21,637	21,680	1,460	1,612	...
April .....	32,152	32,976	4,439	4,727	21,360	21,774	1,724	1,803	...
May .....	30,675	32,772	3,891	4,323	20,672	21,578	1,430	1,608	4,369
June .....	31,347	32,417	4,211	4,700	20,982	20,692	2,577	1,650	...
July .....	32,546	33,109	4,739	4,881	20,570	20,820	1,074	1,663	...
August .....	33,684	33,350	5,043	4,807	20,813	21,347	1,635	1,602	3,453
September .....	34,563	33,985	5,349	5,104	21,237	21,280	1,540	1,583	...
October .....	35,251	34,026	5,845	5,196	21,645	21,537	1,356	1,455	...
November .....	35,009	34,255	5,671	5,270	21,836	21,663	1,319	1,546	3,585
December .....	34,601	34,225	5,438	5,384	22,023	21,634	1,806	1,545	...
1973									
January .....	35,171	34,280	5,741	5,381	22,326	21,718	1,618	1,589	...
February .....	35,287	34,426	5,589	5,523	22,721	21,953	1,633	1,680	4,060
March .....	34,766	34,976	5,273	5,586	22,469	22,291	1,804	1,758	...
April .....	34,297	35,140	5,424	5,807	22,044	22,244	1,900	1,783	...
May .....	33,409	35,693	5,227	5,886	21,753	22,565	1,789	1,709	4,095
June .....	34,621	35,877	5,301	6,044	22,806	22,558	1,956	1,754	...
July .....	e35,500	e36,188	e6,200	e6,385	e22,100	e22,620	1,175	1,676	...
August .....	37,069	36,666	6,754	6,420	22,432	22,960	1,898	1,664	3,568
September .....	36,829	36,285	6,719	6,454	22,195	22,556	1,338	1,720	...
October .....	38,039	36,682	7,519	6,660	22,679	22,656	1,827	1,635	...
November .....	37,680	36,869	7,193	6,673	22,877	22,763	2,124	1,803	4,199
December .....	37,244	36,839	7,064	6,994	22,932	22,615	1,450	1,831	...
1974									
January .....	38,249	37,280	7,425	6,959	23,791	23,143	2,183	1,852	...
February .....	37,963	37,001	7,055	6,964	24,032	23,175	2,064	1,802	4,737
March .....	37,249	37,436	6,779	7,189	23,847	23,634	1,462	1,794	...
April .....	37,264	38,141	7,044	7,550	23,778	23,970	1,527	1,844	...
May .....	35,601	38,076	6,476	7,301	23,123	23,987	2,079	1,710	p3,161
June .....	37,545	38,947	7,373	8,417	23,994	23,756	1,752	1,904	...
July .....	e39,626	e40,435	e8,149	e8,392	e24,316	e24,914	1,377	r1,940	...
August .....	40,594	40,152	8,426	8,010	23,791	24,351	3,229	p1,907	(NA)
September .....	41,055	40,488	8,311	7,991	24,283	24,703	r1,678		
October .....	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	p1,329		
November .....									
December .....									

NA=not available; p=preliminary; r=revised; e=estimated. \*Indicates series shown in charts. (See pages 7 and 8.)

## Advance Indicators of Defense Activity--Continued

Year and month	653. Average weekly overtime hours, production workers, defense products industries, BLS		654. Accession rate, defense products industries, BLS			655. Layoff rate, defense products industries, BLS			656. Job vacancy rate, defense products industries, BLS, not seasonally adjusted*
	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—4-month*	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—4-month*	
	(Hours)	(Hours)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Per 100 employees)	(Percent)
1972									
January .....	2.4	2.3	1.8	1.9	1.9	1.2	0.9	1.1	0.7
February .....	2.5	2.7	1.7	1.9	1.9	1.2	1.0	0.9	0.7
March .....	2.7	2.8	1.9	2.0	2.0	1.0	0.7	0.8	0.8
April .....	2.5	2.8	1.9	2.1	2.1	0.9	0.8	0.8	0.9
May .....	2.4	2.7	2.2	2.3	2.0	0.7	0.9	0.8	1.0
June .....	2.8	2.8	2.5	1.6	2.0	0.6	0.9	0.8	1.0
July .....	2.4	2.7	2.2	2.1	2.1	0.6	0.8	0.8	1.0
August .....	2.7	2.7	2.6	2.3	2.1	0.6	0.7	0.8	1.0
September .....	3.2	3.0	2.5	2.3	2.2	0.6	0.7	0.7	1.1
October .....	3.0	2.8	2.4	2.4	2.3	0.6	0.6	0.6	1.1
November .....	3.1	2.8	1.9	2.2	2.2	0.6	0.6	0.6	1.1
December .....	3.4	2.9	1.5	2.1	2.3	0.5	0.6	0.6	1.1
1973									
January .....	2.9	2.8	2.5	2.6	2.3	0.8	0.5	0.6	1.2
February .....	3.1	3.3	2.0	2.2	2.2	0.7	0.5	0.5	1.2
March .....	2.9	3.0	2.0	2.1	2.3	0.7	0.5	0.5	1.2
April .....	2.8	3.1	2.0	2.2	2.2	0.6	0.6	0.6	1.2
May .....	2.9	3.2	2.2	2.2	2.2	0.5	0.7	0.6	1.3
June .....	2.8	2.8	2.9	2.2	2.2	0.5	0.7	0.7	1.4
July .....	2.7	3.0	2.5	2.3	2.2	0.6	0.8	0.7	1.4
August .....	2.8	2.8	2.6	2.3	2.2	0.5	0.6	0.6	1.4
September .....	3.4	3.2	2.4	2.2	2.3	0.4	0.5	0.6	1.5
October .....	3.2	3.0	2.5	2.4	2.3	0.6	0.5	0.6	1.5
November .....	3.6	3.3	2.0	2.2	2.2	0.7	0.6	0.6	1.3
December .....	3.7	3.3	1.3	2.0	2.2	0.5	0.6	0.5	1.1
1974									
January .....	2.9	3.0	2.1	2.1	2.1	0.7	0.4	0.5	(NA)
February .....	2.8	2.9	1.8	2.0	2.0	0.7	0.5	0.5	
March .....	2.9	2.9	1.9	2.0	2.1	0.6	0.4	0.5	
April .....	2.2	2.5	2.1	2.3	2.1	0.6	0.6	0.6	
May .....	2.8	3.1	2.2	2.2	2.2	0.5	0.7	0.6	
June .....	3.0	3.0	2.8	2.1	2.2	0.5	0.7	0.6	
July .....	2.8	3.1	2.5	2.3	2.2	0.4	0.6	0.6	
August .....	r2.9	r2.9	2.6	2.2	(NA)	0.5	0.6	(NA)	
September .....	p3.0	p2.7	(NA)	(NA)		(NA)	(NA)		
October .....	(NA)	(NA)							
November .....									
December .....									

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 8.)



# defense indicators

TABLE

3

## Intermediate and Final Indicators of Defense Activity

Year and month	657. Output of defense and space equipment, FRB, seasonally adjusted*	659. Manufacturers' inventories, defense products, Census, seasonally adjusted*	661. Manufacturers' unfilled orders, defense products, Census, seasonally adjusted*	664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries, Census, seasonally adjusted*	666. Defense Department progress payments outstanding, DOD, not seasonally adjusted*	670. Employment in defense products industries, total, BLS	
	(Index: 1967=100)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	Not seasonally adjusted	Seasonally adjusted*
1972							
January .....	74.8	4,594	18,206	...	...	1,108	1,105
February .....	76.0	4,627	18,071	...	...	1,109	1,108
March .....	77.6	4,706	18,034	14,052	7,297	1,108	1,109
April .....	78.1	4,720	18,249	...	...	1,109	1,116
May .....	77.7	4,711	18,176	...	...	1,109	1,117
June .....	78.1	4,802	19,322	15,233	7,043	1,113	1,116
July .....	78.3	4,831	18,907	...	...	1,113	1,115
August .....	78.1	4,911	19,076	...	...	1,114	1,117
September .....	77.6	4,937	19,119	14,819	6,866	1,125	1,119
October .....	77.9	4,978	18,966	...	...	1,131	1,128
November .....	79.6	4,988	18,773	...	...	1,142	1,137
December .....	80.1	5,087	19,070	15,106	6,668	1,146	1,143
1973							
January .....	79.8	5,210	19,060	...	...	1,145	1,141
February .....	80.6	5,248	19,123	...	...	1,143	1,142
March .....	80.1	5,266	19,343	15,533	6,942	1,139	1,140
April .....	80.0	5,384	19,659	...	...	1,137	1,144
May .....	79.7	5,384	19,780	...	...	1,135	1,143
June .....	80.1	5,477	20,211	16,084	7,026	1,142	1,145
July .....	81.1	5,434	19,824	...	...	1,141	1,144
August .....	79.7	5,555	20,210	...	...	1,142	1,146
September .....	79.8	5,528	20,013	15,904	7,139	1,148	1,143
October .....	80.0	5,531	20,215	...	...	1,150	1,147
November .....	80.9	5,508	20,797	...	...	1,154	1,150
December .....	81.9	5,615	20,740	16,448	7,385	1,155	1,152
1974							
January .....	81.4	5,679	21,372	...	...	1,150	1,147
February .....	80.9	5,837	21,827	...	...	1,144	1,143
March .....	81.0	5,966	21,678	17,383	7,781	1,142	1,144
April .....	80.6	5,978	21,622	...	...	1,141	1,147
May .....	82.2	6,119	22,107	...	...	1,138	1,146
June .....	81.7	6,201	22,261	16,902	8,104	1,143	1,147
July .....	82.6	6,303	22,208	...	...	1,144	1,148
August .....	r83.1	6,431	23,941	...	...	r1,113	r1,117
September .....	r83.8	6,377	r23,979	(NA)	(NA)	1,154	1,151
October .....	p83.8	(NA)	p23,636			p1,157	p1,154
November .....							
December .....							

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See pages 9 and 10.)

## Intermediate and Final Indicators of Defense Activity--Continued

Year and month	671. Employment in defense products industries, production workers, BLS		673. Index of aggregate weekly man-hours, defense products industries, BLS		675. Index of aggregate weekly payrolls, production workers, defense products industries, BLS	
	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*	Not seasonally adjusted	Seasonally adjusted*
	(Thous.)	(Thous.)	(1967=100)	(1967=100)	(1967=100)	(1967=100)
1972						
January .....	570	567	(1)	(1)	(1)	(1)
February .....	573	572	(1)	(1)	(1)	(1)
March .....	571	572	(1)	(1)	(1)	(1)
April .....	572	577	(1)	(1)	(1)	(1)
May .....	571	577	(1)	(1)	(1)	(1)
June .....	575	578	(1)	(1)	(1)	(1)
July .....	575	578	(1)	(1)	(1)	(1)
August .....	578	581	(1)	(1)	(1)	(1)
September .....	587	582	(1)	(1)	(1)	(1)
October .....	592	589	(1)	(1)	(1)	(1)
November .....	604	599	(1)	(1)	(1)	(1)
December .....	608	604	(1)	(1)	(1)	(1)
1973						
January .....	606	602	(1)	(1)	(1)	(1)
February .....	606	604	(1)	(1)	(1)	(1)
March .....	603	605	(1)	(1)	(1)	(1)
April .....	601	606	(1)	(1)	(1)	(1)
May .....	599	605	(1)	(1)	(1)	(1)
June .....	603	606	(1)	(1)	(1)	(1)
July .....	603	607	(1)	(1)	(1)	(1)
August .....	601	604	(1)	(1)	(1)	(1)
September .....	608	603	(1)	(1)	(1)	(1)
October .....	610	607	(1)	(1)	(1)	(1)
November .....	611	606	(1)	(1)	(1)	(1)
December .....	615	611	(1)	(1)	(1)	(1)
1974						
January .....	611	608	(1)	(1)	(1)	(1)
February .....	606	604	(1)	(1)	(1)	(1)
March .....	603	605	(1)	(1)	(1)	(1)
April .....	602	607	(1)	(1)	(1)	(1)
May .....	599	606	(1)	(1)	(1)	(1)
June .....	600	604	67.4	67.6	94.6	95.6
July .....	596	602	66.9	67.7	92.8	95.6
August .....	r565	r567	r64.8	r65.3	r88.1	r89.6
September .....	608	604	p68.2	p67.9	p99.1	p98.4
October .....	p611	p605	(NA)	(NA)	(NA)	(NA)
November .....						
December .....						

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 10.)

<sup>1</sup>Data for the ordnance and accessories component of this series (SIC Code 19) are being revised by the source agency for the period March 1971 through May 1974 to correct processing errors. The corrected data for this period are expected to be available in December when the source agency introduces routine benchmark revisions. This series will be recalculated to include all revisions and corrections at that time. In the interim, data will not be shown for the aforementioned period.

defense indicators

TABLE

3

Intermediate and Final Indicators of Defense Activity--Continued

Year and month	Defense Department manpower, DOD		Defense Department net outlays, DOD				
	677. Military, not seasonally adjusted*	678. Civilian, not seasonally adjusted*	680. Total, military functions and military assistance			681. Operations	
			Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data--6-month*	Not seasonally adjusted	Seasonally adjusted
	(Thous.)	(Thous.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972							
January .....	2,462	1,119	5,973	6,280	6,209	3,971	4,144
February .....	2,426	1,117	6,128	6,205	6,306	4,013	4,069
March .....	2,385	1,112	6,944	6,341	6,398	4,307	4,112
April .....	2,341	1,107	6,539	6,722	6,550	4,294	4,248
May .....	2,319	1,090	6,911	6,623	6,521	4,535	4,459
June .....	2,323	1,083	8,769	7,130	6,448	4,271	3,615
July .....	2,332	1,068	4,987	6,107	6,308	3,972	4,436
August .....	2,344	1,073	5,679	5,766	6,228	3,928	3,937
September .....	2,356	1,071	5,212	5,502	6,174	3,805	3,975
October .....	2,371	1,081	6,107	6,237	6,024	3,925	4,079
November .....	2,370	1,083	6,313	6,303	6,049	4,084	4,074
December .....	2,348	1,082	6,063	6,232	6,151	4,012	4,093
1973							
January .....	2,334	1,073	6,388	6,256	6,295	4,119	4,107
February .....	2,314	1,057	6,054	6,377	6,288	3,988	4,162
March .....	2,291	1,051	6,736	6,366	6,220	4,217	4,167
April .....	2,274	1,051	6,222	6,194	6,281	4,087	3,970
May .....	2,256	1,051	6,213	5,896	6,235	4,033	3,946
June .....	2,253	1,031	7,854	6,597	6,291	4,537	3,935
July .....	2,251	1,019	5,005	5,978	6,330	3,669	4,018
August .....	2,237	1,022	6,649	6,716	6,371	4,279	4,228
September .....	2,232	1,019	5,967	6,598	6,503	4,027	4,316
October .....	2,227	1,022	6,527	6,444	6,441	4,105	4,156
November .....	2,218	1,026	6,766	6,683	6,534	4,359	4,378
December .....	2,202	1,026	5,953	6,228	6,535	4,066	4,226
1974							
January .....	2,199	1,034	6,728	6,538	6,524	4,376	4,333
February .....	2,195	1,039	6,384	6,717	6,527	4,137	4,313
March .....	2,187	1,042	6,702	6,536	6,537	4,398	4,364
April .....	2,174	1,046	6,685	6,458	6,648	4,367	4,221
May .....	2,156	1,053	7,204	6,745	6,712	4,718	4,536
June .....	2,162	1,070	7,872	6,894	6,801	4,835	4,296
July .....	2,162	1,074	5,979	6,921	r6,956	4,628	4,917
August .....	r2,153	1,064	6,897	7,254	p7,067	4,804	4,957
September .....	(NA)	(NA)	r6,948	r7,463		r4,575	r4,828
October .....			p7,268	p7,127		p4,818	p4,854
November .....							
December .....							

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See pages 10 and 11.)

## Intermediate and Final Indicators of Defense Activity--Continued

Year and month	Defense Department net outlays, DOD—Continued			683. Budget outlays for the national defense function, Treasury		685. Defense Department personnel compensation, DOD	
	682. Procurement			Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*	Not seasonally adjusted	Seasonally adjusted*
	Not seasonally adjusted	Seasonally adjusted*	Moving average of seasonally adjusted data—6-month*				
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972							
January .....	1,276	1,372	1,393	6,449	6,425	2,713	2,687
February .....	1,367	1,391	1,424	6,442	6,517	2,681	2,642
March .....	1,666	1,476	1,453	6,582	6,585	2,778	2,686
April .....	1,456	1,528	1,547	6,912	6,774	2,625	2,660
May .....	1,621	1,564	1,620	6,684	6,695	2,638	2,571
June .....	2,390	1,952	1,555	7,574	6,644	2,711	2,700
July .....	1,675	1,810	1,494	5,976	6,492	2,651	2,654
August .....	975	1,002	1,456	6,136	6,418	2,693	2,669
September .....	1,072	1,111	1,417	5,667	6,387	2,610	2,690
October .....	1,306	1,299	1,290	6,472	6,179	2,636	2,687
November .....	1,254	1,331	1,216	6,499	6,263	2,658	2,666
December .....	1,084	1,189	1,271	6,320	6,347	2,609	2,670
1973							
January .....	1,355	1,367	1,301	6,483	6,493	2,811	2,723
February .....	1,243	1,329	1,306	6,641	6,482	2,666	2,709
March .....	1,439	1,291	1,291	6,541	6,415	2,728	2,677
April .....	1,287	1,330	1,322	6,409	6,489	2,675	2,675
May .....	1,315	1,243	1,245	6,099	6,353	2,736	2,658
June .....	1,649	1,371	1,276	6,761	6,404	2,615	2,639
July .....	863	907	1,285	5,671	6,434	2,712	2,701
August .....	1,450	1,513	1,300	6,945	6,455	2,735	2,713
September .....	1,239	1,344	1,318	6,718	6,585	2,615	2,712
October .....	1,487	1,425	1,298	6,536	6,504	2,732	2,757
November .....	1,268	1,349	1,357	6,877	6,650	2,765	2,793
December .....	1,124	1,250	1,318	6,276	6,643	2,589	2,642
1974							
January .....	1,270	1,262	1,300	6,550	6,621	2,879	2,784
February .....	1,195	1,276	1,289	6,899	6,612	2,651	2,691
March .....	1,313	1,241	1,268	6,588	6,613	2,700	2,669
April .....	1,382	1,355	1,254	6,484	r6,746	2,750	2,745
May .....	1,292	1,227	1,179	6,881	r6,752	2,817	2,729
June .....	1,346	1,165	1,204	r7,075	r6,815	2,710	2,743
July .....	801	810	1,221	6,583	6,952	2,835	2,796
August .....	1,348	1,425	p1,224	7,281	(NA)	p2,824	p2,852
September .....	1,251	1,343		7,409		(NA)	(NA)
October .....	p1,455	p1,377		(NA)			
November .....							
December .....							

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 11.)



defense indicators

TABLE  
3

Intermediate and Final Indicators of Defense Activity--Continued

Year and month	688. Manufacturers' shipments, defense products, Census		689. Manufacturers' shipments to the U.S. Government, aerospace industries, Census, seasonally adjusted*	691. Ratio, manufacturers' unfilled orders to shipments, defense products, Census		693. Ratio, manufacturers' inventories to shipments, defense products, Census	
	Seasonally adjusted*	Moving average of seasonally adjusted data--5-month*		Seasonally adjusted*	Moving average of seasonally adjusted data--6-month*	Seasonally adjusted*	Moving average of seasonally adjusted data--6-month*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Ratio)	(Ratio)	(Ratio)	(Ratio)
1972							
January .....	1,475	1,496	...	12.3	11.8	3.1	3.0
February .....	1,519	1,488	3,298	11.9	12.0	3.0	3.1
March .....	1,497	1,501	...	12.0	12.1	3.1	3.1
April .....	1,509	1,492	...	12.1	12.3	3.1	3.2
May .....	1,503	1,486	3,225	12.1	12.4	3.1	3.2
June .....	1,431	1,480	...	13.5	12.6	3.4	3.2
July .....	1,489	1,477	...	12.7	12.7	3.2	3.3
August .....	1,466	1,478	3,767	13.0	12.8	3.3	3.3
September .....	1,497	1,495	...	12.8	12.8	3.3	3.3
October .....	1,509	1,499	...	12.6	12.7	3.3	3.3
November .....	1,512	1,531	3,275	12.4	12.5	3.3	3.3
December .....	1,509	1,546	...	12.6	12.4	3.4	3.3
1973							
January .....	1,628	1,561	...	11.7	12.3	3.2	3.3
February .....	1,570	1,575	3,599	12.2	12.3	3.3	3.3
March .....	1,584	1,607	...	12.2	12.2	3.3	3.3
April .....	1,584	1,587	...	12.4	12.3	3.4	3.3
May .....	1,669	1,585	3,607	11.9	12.4	3.2	3.4
June .....	1,527	1,571	...	13.2	12.6	3.6	3.4
July .....	1,562	1,561	...	12.7	12.8	3.5	3.5
August .....	1,511	1,552	3,612	13.4	12.8	3.7	3.5
September .....	1,535	1,555	...	13.0	13.0	3.6	3.6
October .....	1,625	1,543	...	12.4	13.1	3.4	3.6
November .....	1,541	1,552	3,611	13.5	13.3	3.6	3.6
December .....	1,505	1,567	...	13.8	13.4	3.7	3.6
1974							
January .....	1,552	1,564	...	13.8	13.4	3.7	3.6
February .....	1,610	1,573	3,721	13.6	13.6	3.6	3.7
March .....	1,612	1,591	...	13.4	13.7	3.7	3.7
April .....	1,586	1,600	...	13.6	13.7	3.8	3.8
May .....	1,594	1,564	p3,810	13.9	14.0	3.8	3.9
June .....	1,596	1,541	...	13.9	14.4	3.9	4.0
July .....	1,431	r1,551	...	15.5	r14.6	4.4	4.0
August .....	1,497	p1,567	(NA)	16.0	p14.7	4.3	(NA)
September .....	r1,638			r14.6		3.9	
October .....	p1,673			p14.1		(NA)	
November .....							
December .....							

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 12.)

TABLE  
4

## Defense-Related Balance of Payments Components

Year and month	546. Transfers under U.S. military agency sales contracts (exports), BEA		547. Direct defense expenditures (imports), BEA, not seasonally adjusted*	696. U.S. Government cash receipts associated with military sales contracts, BEA	
	Not seasonally adjusted	Seasonally adjusted*		Not seasonally adjusted	Seasonally adjusted*
	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)	(Mil. dol.)
1972					
January .....	***	***	***	***	***
February .....	311	326	1,222	237	273
March .....	***	***	***	***	***
April .....	***	***	***	***	***
May .....	321	281	1,242	373	365
June .....	***	***	***	***	***
July .....	***	***	***	***	***
August .....	224	252	1,109	325	381
September .....	***	***	***	***	***
October .....	***	***	***	***	***
November .....	299	295	1,185	452	368
December .....	***	***	***	***	***
1973					
January .....	***	***	***	***	***
February .....	326	342	1,175	520	554
March .....	***	***	***	***	***
April .....	***	***	***	***	***
May .....	509	446	1,209	544	535
June .....	***	***	***	***	***
July .....	***	***	***	***	***
August .....	466	520	1,067	610	665
September .....	***	***	***	***	***
October .....	***	***	***	***	***
November .....	1,054	1,046	1,104	616	536
December .....	***	***	***	***	***
1974					
January .....	***	***	***	***	***
February .....	643	673	1,166	488	521
March .....	***	***	***	***	***
April .....	***	***	***	***	***
May .....	p732	p655	p1,291	p534	p525
June .....	***	***	***	***	***
July .....	***	***	***	***	***
August .....	(NA)	(NA)	(NA)	(NA)	(NA)
September .....	***	***	***	***	***
October .....	***	***	***	***	***
November .....	***	***	***	***	***
December .....	***	***	***	***	***

NA=not available; p=preliminary; r=revised. \*Indicates series shown in charts. (See page 13.)

# Appendix A. SEASONAL ADJUSTMENT FACTORS

Series title	1974											
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>MONTHLY SERIES</b>												
Defense Department gross obligations incurred:												
617. Total <sup>1</sup>	104.7	92.6	88.7	94.7	87.8	122.7	112.8	100.7	101.0	105.7	94.8	91.6
619. Operations <sup>1</sup>	105.9	88.0	93.2	103.7	95.1	112.9	115.5	100.4	94.7	107.9	93.4	89.0
621. Procurement	112.5	98.2	84.1	75.8	67.2	174.6	69.4	83.7	104.2	118.2	97.1	115.0
623. Gross obligations incurred outside the Federal Government for national defense <sup>1</sup>	104.9	87.6	92.3	95.7	89.8	113.8	113.8	105.1	92.6	108.1	100.2	96.2
625. Defense Department military prime contract awards for work performed in the United States	91.3	83.2	97.2	72.0	78.1	176.9	112.3	98.5	102.4	100.1	84.9	103.3
Defense Department gross unpaid obligations outstanding: <sup>2</sup>												
643. Total	102.6	102.6	99.5	97.7	93.5	96.4	98.0	101.1	101.4	103.7	102.2	101.1
644. Operations	106.7	101.3	94.3	93.3	88.7	87.6	97.1	105.2	104.0	113.1	107.8	101.0
645. Procurement	102.8	103.7	100.9	99.2	96.4	101.0	97.6	97.7	98.3	100.1	100.5	101.4
648. Manufacturers' new orders, defense products <sup>3</sup>	94.9	98.1	98.4	87.5	71.2	93.1	178.1	85.4	116.2	104.9	91.8	106.5
653. Average weekly overtime hours, production workers, defense products industries <sup>4</sup>	-.1	-.1	.0	-.3	-.3	.0	-.3	.0	.3	.2	.2	.4
654. Accession rate, defense products industries <sup>4</sup>	.0	-.2	-.1	-.2	.0	.7	.2	.4	.2	.1	-.2	-.7
655. Layoff rate, defense products industries <sup>4</sup>	.3	.2	.2	.0	-.2	-.2	-.2	-.1	-.1	.1	.1	-.1
657. Output of defense and space equipment <sup>3</sup>	100.0	99.9	100.4	99.4	99.9	100.7	98.6	98.9	100.1	100.1	100.9	101.8
659. Manufacturers' inventories, defense products <sup>3</sup>	98.6	99.8	101.3	100.6	100.0	99.9	100.2	99.2	99.7	100.6	100.6	99.4
661. Manufacturers' unfilled orders, defense products <sup>3</sup>	101.0	101.2	101.0	99.8	97.3	96.3	101.0	99.7	100.5	101.0	99.9	99.8
Employment in defense products industries:												
670. Total	100.3	100.1	99.8	99.5	99.3	99.7	99.7	99.6	100.3	100.2	100.6	100.6
671. Production workers	100.5	100.2	99.6	99.2	98.8	99.3	99.1	99.6	100.8	100.9	101.0	100.8
673. Index of aggregate weekly man-hours, defense products industries	100.3	99.8	100.0	99.3	99.3	99.8	98.9	99.2	100.4	100.3	101.2	101.7
675. Index of aggregate weekly payrolls, production workers, defense products industries	100.8	99.8	100.1	98.6	98.8	98.9	97.1	98.4	100.7	100.5	102.4	104.3
Defense Department net outlays:												
680. Total, military functions and military assistance <sup>1</sup>	102.9	95.0	102.5	103.5	106.8	114.2	86.4	95.1	93.1	102.0	97.7	98.7
681. Operations <sup>1</sup>	101.0	95.9	100.8	103.5	104.0	112.5	94.1	96.9	94.8	99.3	97.4	97.9
682. Procurement <sup>1</sup>	100.6	93.7	105.8	102.0	105.3	115.6	98.9	94.6	93.1	105.7	91.4	91.7
683. Budget outlays for the national defense function <sup>1</sup>	103.7	94.3	101.5	104.1	105.3	114.0	89.0	94.8	92.8	102.3	97.0	96.9
685. Defense Department personnel compensation <sup>1</sup>	103.4	98.5	101.2	100.2	103.2	98.8	101.4	99.0	97.6	99.1	97.6	98.0
688. Manufacturers' shipments, defense products <sup>3</sup>	88.0	96.4	99.5	99.6	98.9	105.6	98.1	99.1	103.4	99.5	102.9	108.3
<b>QUARTERLY SERIES</b>												
	IQ			IIQ			IIIQ			IVQ		
200. Gross national product <sup>3</sup>	96.1			100.9			98.4			104.5		
264. Fed. Govt. purchases of goods and services, national defense <sup>3</sup>	99.2			104.9			95.0			100.9		
546. Transfers under U.S. military agency sales contracts-exports <sup>5</sup>	-16			63			-54			8		
Defense Department military prime contract awards:												
626. Aircraft	91.1			114.9			104.1			90.3		
627. Missile and space systems	90.8			72.6			130.9			106.7		
629. Weapons and ammunition	96.3			124.5			48.6			129.9		
630. Electronic and communications equipment	92.0			126.6			81.7			100.1		
631. Combat vehicles	58.1			125.8			126.2			90.3		
632. Other hard goods	89.6			139.1			66.5			105.0		
633. Soft goods	67.6			75.3			154.6			102.9		
634. Construction	90.6			180.7			65.1			63.8		
635. Services	58.1			101.4			129.6			109.7		
636. Under \$10,000	99.3			125.3			83.0			92.5		
637. Educational and nonprofit institutions	84.2			93.1			104.7			118.6		
640. Outside U.S.	79.5			90.7			156.4			74.4		
Aerospace industries:												
650. Manufacturers' new orders from the U.S. Government	87.1			90.2			123.4			99.3		
664. Manufacturers' unfilled orders from the U.S. Government	99.7			96.3			102.5			101.5		
689. Manufacturers' shipments to the U.S. Government	93.8			102.5			98.9			105.0		
696. U.S. Govt. cash receipts associated with military sales contracts <sup>5</sup>	-34			9			-55			80		

NOTE: The seasonal adjustment factors presented in this table were computed using the techniques described in the Bureau of the Census Technical Paper No. 15, *The X-11 Variant of the Census Method II Seasonal Adjustment Program*.

Monthly data for Defense Department military prime contract awards by commodity category (series 626 to 640) have not been adjusted for seasonal variation. The series on direct defense expenditures—imports (series 547), Defense Department progress payments outstanding (series 666), and Defense Department manpower (series 677 and 678) contain no measurable seasonal variation. The series on job vacancy rate, defense products industries (series 656) contains too few observations to be seasonally adjusted.

<sup>1</sup> Factors are products of seasonal and trading-day factors.

<sup>2</sup> Prior to 1972, data for gross unpaid obligations outstanding are not available for a number

of months but these gaps were filled with averages of preceding and following months for purposes of estimating seasonal variation.

<sup>3</sup> These series have been adjusted by the source agencies. The factors shown here are implicit seasonal factors for the calendar year 1973 and are derived by dividing the seasonally unadjusted data by the seasonally adjusted data.

<sup>4</sup> These series have been seasonally adjusted using the additive version of the seasonal adjustment program. Seasonally adjusted data are derived by subtracting the adjustment factor from the unadjusted data. Seasonally adjusted data for other series are derived by dividing the seasonal factors into the unadjusted data.

<sup>5</sup> This series is the total of component series which have been adjusted separately by the source agency. The factors shown here are implicit seasonal factors for the calendar year 1973 and are derived by subtracting the seasonally adjusted data from the seasonally unadjusted data.



# Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY

## Part 1. Monthly Series

Series title	Period covered	O	CI	T	C	T/C	MCD	Average duration of run (ADR)	
								CI	MCD
Defense Department gross obligations incurred:									
617. Total	Jan. '57-Jan. '74	18.68	7.38	7.29	0.75	9.72	6	1.53	2.31
619. Operations	July '59-Jan. '74	8.33	2.61	2.50	.64	3.88	4	1.72	3.00
621. Procurement	Jan. '57-Jan. '74	45.13	22.23	22.10	1.68	13.19	6	1.49	2.12
623. Gross obligations incurred outside the Federal Government for national defense	July '63-Jan. '74	(NA)	6.94	6.82	.74	9.21	6	1.52	2.47
625. Defense Department military prime contract awards for work performed in the United States, total	Jan. '57-Jan. '74	33.17	15.07	14.94	1.32	11.33	6	1.39	2.03
Defense Department gross unpaid obligations outstanding:									
643. Total	Jan. '57-Jan. '74	2.08	1.36	.90	.91	.99	1	2.58	2.58
644. Operations	Jan. '67-Jan. '74	5.47	2.48	2.16	1.06	2.03	3	2.00	4.82
645. Procurement	Jan. '67-Jan. '74	2.49	1.51	.99	.99	1.00	2	2.15	4.88
Manufacturers' new orders:									
647. Defense products industries	Jan. '57-Mar. '72	(NA)	15.11	14.89	.97	15.32	6	1.58	2.33
648. Defense products	Feb. '68-Jan. '74	25.69	19.12	19.01	1.59	11.94	6	1.45	2.00
*653. Average weekly overtime hours, production workers, defense products industries (hours)	Jan. '58-Jan. '74	.22	.13	.13	.05	2.84	3	2.13	4.22
*654. Accession rate, defense products industries (per 100 employees)	Jan. '58-Jan. '74	.39	.16	.15	.05	3.12	4	2.26	3.78
*655. Layoff rate, defense products industries (per 100 employees)	Jan. '58-Jan. '74	.17	.13	.13	.04	3.07	4	2.02	4.02
*656. Job vacancy rate, defense products industries (percent) (U)	Apr. '69-Dec. '73	.08	(NA)	.07	.05	1.36	2	4.00	7.86
657. Output of defense and space equipment	Jan. '54-Jan. '74	(NA)	.98	.48	.79	.60	1	4.07	4.07
Manufacturers' inventories:									
658. Defense products industries	Jan. '57-Mar. '72	(NA)	1.04	.52	.85	.62	1	2.80	2.80
659. Defense products	Jan. '68-Jan. '74	1.89	1.74	1.16	1.27	.92	1	3.00	3.00
Manufacturers' unfilled orders:									
660. Defense products industries	Jan. '57-Mar. '72	(NA)	1.23	.90	.83	1.09	2	2.76	3.42
661. Defense products	Jan. '68-Jan. '74	1.93	1.64	1.11	.99	1.11	2	2.77	3.94
Employment in defense products industries:									
670. Total	Jan. '58-Jan. '74	.74	.68	.25	.60	.42	1	4.68	4.68
671. Production workers	Jan. '58-Jan. '74	1.02	.86	.43	.69	.63	1	3.62	3.62
673. Index of aggregate weekly man-hours, defense products industries	Jan. '58-Jan. '74	.92	.75	.35	.62	.56	1	4.09	4.09
675. Index of aggregate weekly payrolls, production workers, defense products industries	Jan. '58-Jan. '74	1.61	1.07	.65	.81	.80	1	3.05	3.05
Defense Department manpower:									
677. Military (U)	Jan. '57-Jan. '74	.66	(NA)	.26	.59	.44	1	4.25	4.25
678. Civilian (U)	Jan. '57-Jan. '74	.55	(NA)	.33	.43	.79	1	4.25	4.25
Defense Department net outlays:									
680. Total, military functions and military assistance	Jan. '57-Jan. '74	9.06	3.97	3.87	.75	5.18	6	1.71	3.16
681. Operations	July '59-Jan. '74	7.57	3.52	3.31	.70	4.75	5	1.61	2.43
682. Procurement	Jan. '57-Jan. '74	15.02	11.57	11.44	1.55	7.38	6	1.59	2.88
683. Budget outlays for the national defense function	Jan. '57-Jan. '74	(NA)	4.09	4.02	.69	5.82	6	1.58	3.02
685. Defense Department personnel compensation	Jan. '67-Jan. '74	2.72	1.40	1.21	.53	2.29	4	2.55	4.26
Manufacturers' shipments:									
687. Defense products industries	Jan. '57-Mar. '72	(NA)	2.67	2.49	.87	2.85	3	1.64	3.40
688. Defense products	Jan. '68-Jan. '74	6.98	4.45	4.40	.95	4.62	5	1.41	2.83
Ratio, manufacturers' unfilled orders to shipments:									
690. Defense products industries	Jan. '57-Mar. '72	(NA)	2.95	2.71	.96	2.82	4	1.90	3.81
691. Defense products	Jan. '68-Jan. '74	8.23	5.09	5.05	.93	5.46	6	1.60	3.05
Ratio, manufacturers' inventories to shipments:									
692. Defense products industries	Jan. '57-Mar. '72	(NA)	2.84	2.90	.72	4.01	5	2.46	5.74
693. Defense products	Jan. '68-Jan. '74	8.05	5.37	5.44	.75	7.20	6	1.76	3.35

NA = not available.

\*Measures for these series are based on actual changes rather than percent changes (see definition below). <sup>(U)</sup> indicates measures are based on unadjusted data.

### BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 1

The measures in this appendix provide a historical perspective for interpreting current changes in each series. They are derived using the Census X-11 seasonal adjustment program. Brief definitions of the measures are given below; more complete definitions appear in *Electronic Computers and Business Indicators* by Julius Shiskin, issued as Occasional Paper 57 by the National Bureau of Economic Research, 1957 (reprinted from *Journal of Business*, October 1957).

" $\bar{O}$ " is the average month-to-month percent change, without regard to sign, in the original unadjusted series. (See final paragraph below for exceptions to these definitions.)

" $\bar{CI}$ " is the same for the seasonally adjusted series.

" $\bar{C}$ " is the same for the short-term trend, which is a smooth, flexible moving average of the seasonally adjusted series.

" $\bar{T}$ " is the same for the irregular component, which is obtained by dividing the seasonally adjusted series by the short-term trend.

" $\bar{T}/\bar{C}$ " measures the relative smoothness (small values) or irregularity (large values) of the seasonally adjusted series. It is the ratio of the average monthly percent change (without regard to sign) in the irregular component to the average monthly percent change (without regard to sign) in the short-term trend.

"MCD" (months for cyclical dominance) estimates the number of months required for the short-term trend to dominate the irregular component. Average percent changes are computed for spans of from 1 to 12 months for both the irregular component and the short-term trend. MCD is the shortest span of months for which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All MCD's greater than "5" are shown as "6".



## Appendix B. AVERAGE CHANGES AND RELATED MEASURES OF VARIABILITY—Continued

"Average Duration of Run" (ADR) is another measure of smoothness and is equal to the average number of consecutive monthly changes in the same direction in any series of observations. When there is no change between two observations, a change in the same direction as the preceding change is assumed. The ADR is shown for the seasonally adjusted series (CI) and the MCD curve, which is a moving average (with the number of terms equal to MCD) of the seasonally adjusted series. A comparison of these measures with the expected ADR of a random series indicates whether the changes approximate those of a random series. In a random series, the expected ADR is 1.5 and the actual values fall between 1.36 and 1.75 about 95 percent of the time. For a moving average of a random series, the expected ADR is 2.

Measures for series identified with an asterisk (\*) are computed by an additive method. This method is used for series with zero or negative data, series which could approach zero, and series expressed in percent. In this method, the measures are defined the same as above except for two differences: (1) the measures are based on actual month-to-month changes (rather than percent changes) and (2) the irregular component is obtained by subtracting the short-term trend from the seasonally adjusted series. The average changes shown above for the components of such a series are in the same unit of measure as the series itself. The unit is indicated in the series title.

### Part 2. Quarterly Series

Series title	Period covered	$\bar{O}$	$\bar{CI}$	$\bar{I}$	$\bar{C}$	$\bar{T/C}$	QCD	Average duration of run (ADR)	
								CI	QCD
200. Gross national product	IQ '57-IVQ '73	5.70	1.79	0.32	1.73	0.18	1	9.57	9.57
264. Federal Government purchases of goods and services, national defense	IQ '57-IVQ '73	6.18	2.00	.76	1.71	.45	1	3.05	3.05
*546. Transfers under U.S. military agency sales contracts—exports (mil. dol.)	IQ '60-IVQ '73	76.33	54.22	39.30	29.71	1.32	2	1.67	2.35
*547. Direct defense expenditures—imports (mil. dol.)	IQ '60-IVQ '73	34.27	(NA)	26.55	21.70	1.22	2	1.83	2.70
*613. National defense purchases as a percent of GNP (percent)	IQ '57-IVQ '73	.33	.18	.08	.16	.48	1	5.58	5.58
650. Manufacturers' new orders from the U.S. Government, aerospace industries	IQ '61-IVQ '73	(NA)	16.77	14.80	5.06	2.92	4	1.38	1.66
664. Manufacturers' unfilled orders from the U.S. Government, aerospace industries	IQ '61-IVQ '73	(NA)	3.75	2.31	2.51	.92	1	2.32	2.32
666. Defense Department progress payments outstanding	IQ '57-IVQ '73	4.73	(NA)	2.25	4.22	.53	1	2.48	2.48
689. Manufacturers' shipments to the U.S. Government, aerospace industries	IQ '61-IVQ '73	(NA)	4.16	3.27	1.99	1.64	2	1.70	2.27
*696. U.S. Government cash receipts associated with military sales contracts (million dollars)	IQ '60-IVQ '73	96.62	73.64	56.86	38.62	1.47	2	1.57	2.35

NA = not available.

\*Measures for these series are based on actual changes rather than percent changes (see definition below).  $\textcircled{U}$  indicates measures are based on unadjusted data.

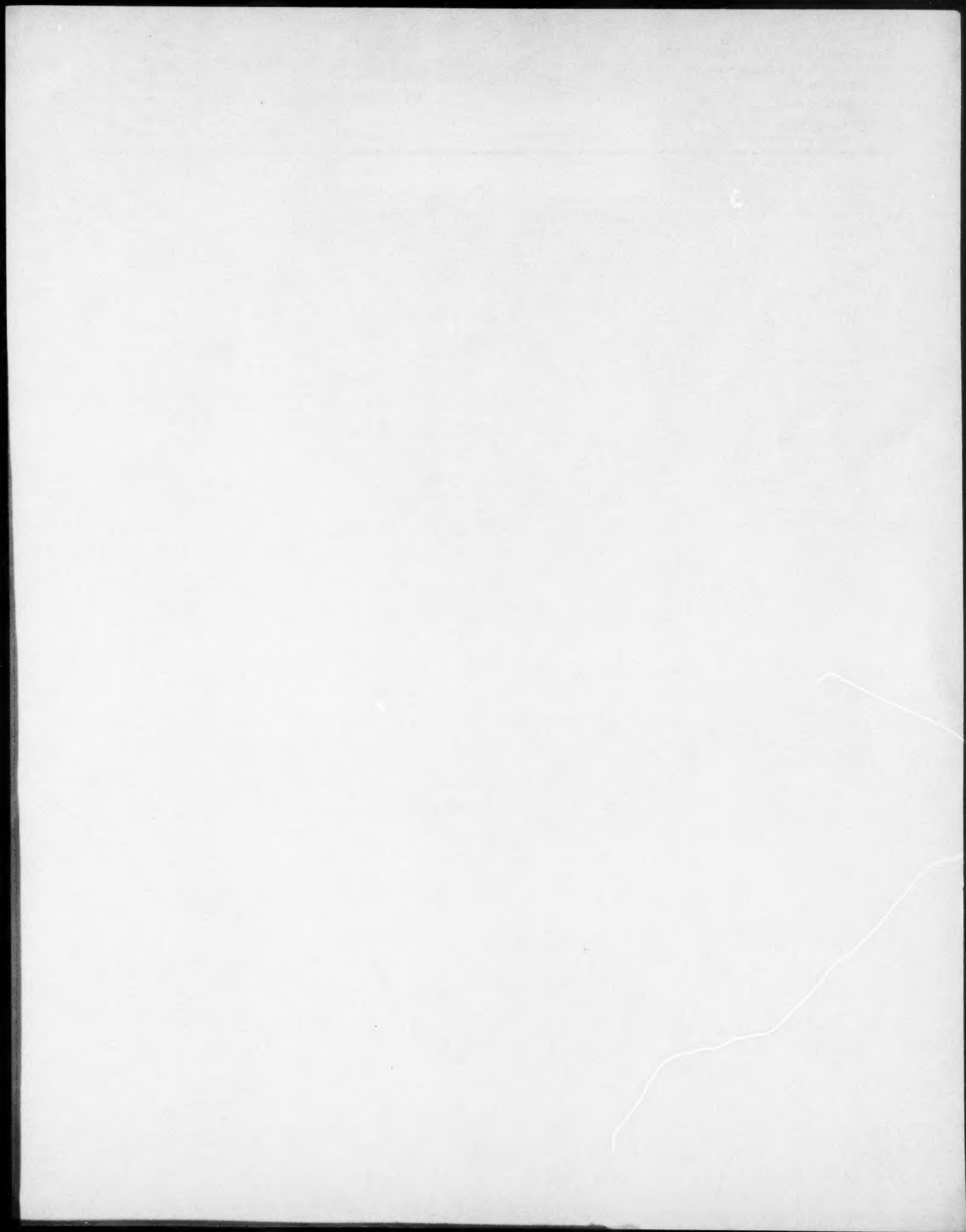
#### BRIEF DEFINITIONS OF MEASURES SHOWN IN PART 2

These measures are defined the same as those in part 1 except that they are based on quarter-to-quarter percent changes. For example,  $\bar{CI}$  is the average quarter-to-quarter percent change (without regard to sign) in the seasonally adjusted series.

In deriving "QCD" (quarters for cyclical dominance), average percent changes are computed for spans of from one to four quarters for the irregular component and the short-term trend. QCD is the shortest span of quarters for

which the average percent change (without regard to sign) in the short-term trend is greater than that in the irregular component. All QCD's greater than "3" are shown as "4". The "Average Duration of Run" (ADR) measures are also expressed in quarters.

As in part 1, measures for series identified with an asterisk (\*) are computed by an additive method. This method is the same as that used for the monthly series except for the use of quarterly data rather than monthly.



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# ALPHABETICAL INDEX—SERIES FINDING GUIDE

Series title	Series number	Current issue (page numbers)		Historical data (issue date)	Series descriptions (issue date)	Series title	Series number	Current issue (page numbers)		Historical data (issue date)	Series descriptions (issue date)
		Charts	Tables					Charts	Tables		
Accession rate, defense products industries	654	8	21	5/74	4/73	Inventories, manufacturers'					
Aerospace industries						Defense products	659	9	22	8/74	2/73
Manufacturers' new orders from U.S. Government	650	See New orders.				Defense products industries	658	9	...	1/72	2/73
Manufacturers' shipments to U.S. Government	669	See Shipments.				Ratio to shipments, defense products	693	12	26	8/74	2/73
Manufacturers' unfilled orders from U.S. Government	664	See Unfilled orders.				Ratio to shipments, defense products industries	692	12	...	11/72	2/73
Balance of payments (defense-related)						Job vacancy rate, defense products industries	656	8	21	8/73	4/73
Cash receipts associated with military sales contracts	696	13	27	9/74	10/73	Layoff rate, defense products industries	655	8	21	5/74	4/73
Direct defense expenditures	547	13	27	9/74	10/73	Man-hours, defense products industries	673	10	23	5/74	4/73
Transfers under military agency sales contracts	546	13	27	9/74	10/73	Manpower—See Civilian manpower and Military manpower.					
Budget outlays for national defense function	683	See Outlays.				Military manpower, Defense Department	677	10	24	8/74	8/68
Cash receipts associated with military sales contracts	696	See Balance of payments.				Military prime contract awards—See Contract awards.					
Civilian manpower, Defense Department	678	10	24	8/74	8/68	Net outlays, Defense Department—See Outlays.					
Compensation						New orders, manufacturers'					
Peyrolls, aggregate weekly, defense products industries	675	10	23	5/74	4/73	Defense products	648	7	20	8/74	2/73
Personnel compensation, Defense Department	685	11	25	8/74	8/68	Defense products industries	647	7	...	11/72	2/73
Contract awards, military prime						From Government, aerospace industries	650	8	20	4/74	2/73
Aircraft	626	...	16	5/74	8/68	Obligations incurred, gross					
Civilian Health and Medical Program	638	...	19	...	...	Defense Department, operations	619	...	15	4/74	8/68
Combat vehicles	631	...	17	5/74	8/68	Defense Department, procurement	621	6	15	4/74	8/68
Construction	634	...	18	5/74	8/68	Defense Department, total	617	6	15	4/74	8/68
Contracts under \$10,000	636	...	19	5/74	8/68	Outside Government for national defense	623	6	16	4/74	10/73
Educational and nonprofit institutions	637	...	19	5/74	8/68	Obligations outstanding, gross unpaid					
Electronic and communications equipment	630	...	17	5/74	8/68	Defense Department, operations	644	...	20	4/74	8/68
Missile and space systems	627	...	16	5/74	8/68	Defense Department, procurement	645	...	20	4/74	8/68
Other hard goods	632	...	18	5/74	8/68	Defense Department, total	643	7	20	4/74	8/68
Services	635	...	18	5/74	8/68	Operations, Defense Department					
Ships	628	...	17	5/74	8/68	Net outlays	681	See Outlays.			
Soft goods	633	...	18	5/74	8/68	Obligations incurred	619	See Obligations incurred.			
Total	625	7	16	5/74	8/68	Unpaid obligations outstanding	644	See Obligations outstanding.			
Weapons and ammunition	629	...	17	5/74	8/68	Orders—See New orders and Unfilled orders.					
Work outside the U.S.	640	...	19	5/74	8/68	Outlays					
Defense and space equipment, output	657	See Output of defense and space equipment.				Budget outlays for national defense function	683	11	25	4/74	10/73
Defense Department						Defense Department, operations	681	...	24	4/74	8/68
Gross obligations incurred—See Obligations incurred.						Defense Department, procurement	682	11	25	4/74	8/68
Gross unpaid obligations outstanding—See Obligations outstanding.						Defense Department, total	680	11	24	4/74	8/68
Manpower—See Civilian manpower and Military manpower.						Output of defense and space equipment	657	9	22	8/74	10/73
Military prime contract awards—See Contract awards.						Overtime hours, defense products industries	653	8	21	5/74	4/73
Net outlays—See Outlays.						Peyrolls, aggregate weekly, defense products industries	675	See Compensation.			
Personnel compensation	685	See Compensation.				Personnel compensation, Defense Department	685	See Compensation.			
Progress payments outstanding	666	See Progress payments.				Procurement, Defense Department					
Direct defense expenditures	547	See Balance of payments.				Net outlays	682	See Outlays.			
Employment						Obligations incurred	621	See Obligations incurred.			
Accession rate, defense products industries	654	See Accession rate.				Unpaid obligations outstanding	645	See Obligations outstanding.			
Employment, production workers, defense products industries	671	10	23	5/74	4/73	Progress payments outstanding, Defense Department	666	9	22	4/74	8/68
Employment, total, defense products industries	670	10	22	5/74	4/73	Purchases of goods and services for national defense	264	See Gross national product.			
Job vacancy rate, defense products industries	656	See Job vacancy rate.				Shipments, manufacturers'					
Layoff rate, defense products industries	655	See Layoff rate.				Defense products	688	12	26	8/74	2/73
Man-hours, defense products industries	673	See Man-hours.				Defense products industries	687	12	...	11/72	2/73
Manpower—See Civilian manpower and Military manpower.						Ratio, inventories to shipments, defense products industries	693	See Inventories.			
Overtime hours, defense products industries	653	See Overtime hours.				Ratio, unfilled orders in shipments, defense products industries	692	See Unfilled orders.			
Expenditures—See Outlays.						Ratio, unfilled orders to shipments, defense products industries	691	See Unfilled orders.			
Federal purchases of goods and services for national defense	264	See Gross national product.				To Government, aerospace industries	690	12	26	4/74	2/73
Gross national product						Transfers under military agency sales contracts	546	See Balance of payments.			
Federal purchases of goods and services for national defense	264	5	14	9/74	10/73	Unfilled orders, manufacturers'					
Gross national product	200	5	14	9/74	10/73	Defense products	661	9	22	8/74	2/73
National defense purchases as percent of GNP	613	5	14	9/74	10/73	Defense products industries	660	9	...	7/71	2/73
Gross obligations incurred—See Obligations incurred.						From Government, aerospace industries	664	9	22	4/74	2/73
Gross unpaid obligations outstanding—See Obligations outstanding.						Ratio to shipments, defense products	691	12	26	8/74	2/73
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						Unpaid obligations outstanding—See Obligations outstanding.					



